

A FEW
PRACTICAL REMARKS
ON THE
MEDICINAL EFFECTS
OF
WINE AND SPIRITS;
WITH
OBSERVATIONS
ON THE
ECONOMY OF HEALTH:

INTENDED PRINCIPALLY FOR THE USE OF
PARENTS, GUARDIANS, AND OTHERS INTRUSTED
WITH THE CARE OF YOUTH.

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Non Nova, sed N. ficere.
QUINTILIAN.

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1799.

Such is the power of Health, that without it, every other comfort is torpid and lifeless: yet this bliss is commonly thrown away in thoughtless negligence—we let it perish without remembering its value, or waste it to ~~how~~ how much we have to spare.



JOHNSON.

P R E F A C E.

IT is not very probable that the sentiments contained in the following pages, should present any thing to a medical reader, with which he has been hitherto unacquainted. Persons of that description, therefore, are not those for whom the perusal of these observations is particularly intended.

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In reality, they are designed only, as an impartial appeal to the understandings of such, as are little acquainted with medical science, and who, in consequence, are themselves frequently liable to complaints, and unhappily, (without suspecting it) are in the habit of exposing others to the same inconvenience, for whose health and welfare they would, most probably, provide very differently, if proper information were laid before them.

Wine, considered within certain limits, is undoubtedly one of those real blessings with which a kind
Provi-

Providence has favoured us; and its true uses and effects have been long known, and considered, by medical writers, of very high eminence and authority. The power of making "glad the heart of man," must therefore, by every person of discernment, and observation, be allowed to have been justly ascribed to it by David.

Within such limits, the writer wishes these "Practical Remarks" to be regarded,—not as intended to prohibit altogether the *use* of wine or spirits, but merely to discourage the very pernicious, and even fatal
abuse

abuse of them; to prevent habits of intemperance from being formed, where, at present, they are not even suspected; to deter young persons, in particular, from the too early, or habitual application of such powerful stimulants, as can by no means be esteemed necessary for them, whilst in health; and to make *that* the support and refuge of old age, which, because its beneficial properties have not been anticipated by a premature recourse to it, may then be advantageously resorted to.

The “Œconomy of Health” under these circumstances, is what the
writer

writer aims at promoting; to enable the uninformed in medical knowledge, to understand in some degree, upon what principles life is sustained, and how it may probably be prolonged, with ease and comfort to ourselves, and benefit to our posterity; to observe also, in the management of young children, how many painful diseases may be precluded by the adoption of a natural and simple regimen; and how health may be preserved, instead of being hastily expended, as is too frequently the case, by improper indulgencies, at the hands of, even,
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the fondest parents, and the best-intentioned friends.

To answer some of these purposes, is this small publication offered to the attention of "parents and guardians," it having been originally drawn up at the request of certain friends of the author, with a reference to this design alone: though from the nature of the subject, it has been extended somewhat further, so as to comprehend various remarks on the effects of Spirituous Liquors, and Wine, in general.

It cannot indeed be expected,
that,

that, in this age of scientific enquiry, much *new* matter can be produced on a subject, which, at all times, and in all civilized countries, has been held worthy of considerable attention; a cautious regard to the *baneful* effects of *strong fermented Liquors* having ever been esteemed essential to health, as well as morals.

It will now be necessary, only to premise, that, though publications are not wanted, wherein these effects are fully considered, and justly described, yet, as many of the most valuable observations on this subject

ject constitute parts of voluminous Systems, and of Treatises principally intended for medical readers, they, of course, do not often fall into the hands of those persons who are peculiarly interested in the knowledge of them; the writer has, therefore, availed himself of the use of many of these remarks, and he trusts that their utility, and importance, will render the insertion of them into this little Work, not unacceptable to the public; to whose candour it is now, with due deference, submitted.

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A FEW
PRACTICAL REMARKS, &c.

ONE of the strongest and most prevalent propensities into which, in early days especially, we are too apt to be seduced beyond the bounds of temperance and of secure indulgence, is a fondness for fermented liquors in general, and in particular for *wine*. The inducements to partake of this at all are various, and, for the most part, probably accidental. Among young persons particularly, the chief seem to be—thoughtlessness,—a fear of singularity,—the example of others,—a supposed manliness in the practice,—or the like; till, by degrees, habit

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creates

creates a relish; and, being accustomed to seek for arguments in its defence, we learn to suppose that to be *necessary* for us, which, in reality, has only been been made *familiar* to us.

The ill consequences which arise from *excess* in this respect, are, indeed, very numerous; but it is not the intention of these pages to pursue and to describe them throughout their *whole* extent, as they respect the mind, the body, or the fortunes, frequently, of those who are greatly devoted to such practices.

The last of these particulars comes not at all within the object of our present consideration; nor am I so vain as, after the unavailing remarks that have been occasionally made by men of eminence in the medical profession, to be over confident in supposing, that a reference to the two former will be very extensively beneficial. Some persons do not even wish to be undeceived in
their

their old opinions; others are not to be untaught their habits by arguments short of their own sufferings, and even these sometimes will not avail. Perhaps, however, some few may be benefited by the hints which are here proposed to them; some possibly even of maturer years may not disdain to be instructed: but whatever may be the case with these, let those who are unaccustomed to strong liquors, or at least who are not in the habit of taking them to *excess*, have a chance afforded them for preserving, unimpaired, their native vivacity and their healthy constitutions: let the cause of young persons, and even of infants, here be pleaded, and some regard be shewn to *them*, whatever their elders and superiors may determine for themselves.

It will be proper, however, before any attempt is made to enumerate and to describe the general effects of vinous spirits upon the human frame, and to

prove that the same substance may be found useful in some cases, and pernicious in others, to enquire into the constituent parts of these liquors; and though it may perhaps appear extraordinary that some vegetables highly nutritious and wholesome in one state, should, by a simple process, become deleterious in another, yet this is precisely the case with the juice of the grape, the substance from which *wine* is made, and from which also, by a further process, *spirit* is obtained. The same remark holds good too with respect to *wheat*, from which the greatest quantity of spirit is prepared, though usually called "*malt spirit*." In these instances, therefore, it is literally true, that *food* is converted into *poison*, when improperly applied.

Wine, whether foreign or domestic, is composed of sugar, mucilage, water and spirit. The latter is produced by the vinous fermentation, and in order to obtain

obtain it in a pure or concentrated state, it is separated or extracted from the other parts by distillation; an art said to have been invented by the Arabians, and exhibiting a striking proof of their knowledge of chemistry, upon which the whole process of making wine, and of distilling spirit, is founded. If these substances could, in a short time, be as intimately combined by art, as they are naturally in wines, and if afterwards proper aromatics were added of different flavours to assist them, there is no doubt but we could perfectly imitate every kind of wine. This indeed is always effected in some degree, by the makers of sweet wines; particularly by Beaufoy and Co. London, &c. &c. who are well known for making English wines resembling in their flavours some of the choicest foreign kinds, under the names of Carcavella, Lisbon, Frontinac, &c. &c. The greatest obstacle to complete perfection in such compositions, seems to

be the length of time that wines require to bring them to a proper state of maturity, and which in *sugar* wines ought probably to be much further extended than it is in ordinary practice.

Any fermented liquor which by distillation yields an inflammable spirit miscible with water, may be called *wine*, whatever vegetable matter it is produced from; as ale or beer, for example, (which contains a spirit answerable to this definition) may be called *wine* from *corn*. Those indeed that are the produce of the grape, have a particular claim to that name, as being the most ancient and universal. A great part indeed of their preparation is a natural process; by observing therefore the agents *Nature* employs, and the circumstances under which she acts, we are enabled to imitate her operations.

The grapes of our Northern climates containing less saccharine matter than those of the Southern hemisphere, is
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one reason why we cannot make wine of English grapes; but this inconvenience may, in some degree, be obviated by mixing sugar with the juice of such grapes previous to fermentation, for alcohol or spirit cannot be obtained from *grapes, barley, or any other vegetables, previous to fermentation—they* only contain the materials from which it is formed. Dr. Arbuthnot informs us that the fertility of the soil in the production of grain, and its not being proper for vines, put the Egyptians upon drinking *ale*, of which they were the inventors.

We are informed by the Scriptures that Noah was the first person who planted the vine; and we are told also that he intoxicated himself with the juice of it.*

Much indeed may be collected from the sacred writings on the use and abuse of wine and of strong liquors, which
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* Gen. c. ix. v. 20.

may be regarded not merely as scriptural authority in this case, but as the opinion of the earliest writers of antiquity, and sometimes of the most judicious and observing: thus says Solomon—"Who hath woe? who hath contentions? who hath wounds? they that tarry long at the wine,"* &c. Again, "Look not upon the wine when it is red; when it giveth its colour to the cup: at the last it biteth like a serpent and stingeth like an adder." On the other hand, says he, "Give strong drink unto him that is ready to perish, and wine to those that be of a heavy heart."† St. Paul, it is true, recommends wine, but it is "for the stomach's sake," and for our "often infirmities," as a medicine, therefore, that he advises it.‡

First then with regard to the *uses* of wine, and its good effects on the human body in certain states of indisposition, especially, where the persons have not been in the habit of daily using it:—to such it proves particularly beneficial
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* Pr. xxiii.

† Pr. xxxi.

‡ 1 Tim. v.

when taken in moderate quantity, as its tendency is to increase the circulation of the fluids, and to *stimulate* all the functions of the mind and body. But it must not be forgotten, that in proportion as this stimulus is applied and the consequent exertion is produced, in the same or greater proportion, debility or weakness will be afterwards induced, unless prevented by timely and judicious management. And this was probably the principal reason that wine, when first introduced medicinally as a cordial into this kingdom, was sold only by the apothecaries, which we are well assured it was about the year 1300. It is probable that Hippocrates was the first who recommended the use of wine in the practice of medicine; and it was the custom of the ancients to dash or mix their strongest wines with water. We are also well informed that the Greeks used to add perfumed oils to their wines, which, though at first applied

plied for medical purposes, they afterwards continued to make use of as a luxury.

Boerhaave says " a vile practice formerly prevailed in Germany which has since been severely and justly punished. i. e. of adding lead to rough or acid white wines, which gave them a very grateful luscious flavour, but subjected the drinkers to an incurable palsy."*

We are also informed that " some years ago this practice was carried on to such an extent in Paris, that the excise office could not account for the prodigious increase of vinegar which was entered at the city gates. But its use was at length discovered to be the avoiding of the high duties imposed on wines upon their entrance into Paris; and sugar of lead joined to some absorbent earths were employed to change these vinegars into sweet wines, which cost the lives of many thousand subjects.

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* Boerhaave's Chemistry, 4to edition, p. 199.

This secret of the utmost importance to health and life, was confessed by a rich old wine merchant on his death-bed, to relieve in some degree his wounded conscience."*

I have been credibly informed by an experienced chemist that *common salt* mixed with different liquors during the *vinous* fermentation has been found effectually to prevent the *acetous* fermentation taking place,—perhaps it would be a good and safe practice for the makers of sweet wines, or cyder merchants, to mix a small quantity of sea salt, as one ounce to three gallons, with their liquor, so soon as it indicates any tendency to become acid. It would certainly prevent it from getting worse, and preclude the necessity of having recourse to other noxious ingredients (if any such be made use of) to effect this purpose. In confirmation of this property in salt, a modern writer asserts that in
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* Willich, on Diet, &c. p. 359.

the island of St. Christopher, the distillers of rum mix *sea water* with the fermenting liquor previous to distillation, and consider it as a real, and great improvement;—the intention here seems to be, to keep the vinous fermentation within proper bounds, and of course by such means to obtain more spirit in the distillation.*

Many of the ancient, and some of the modern physicians have imagined that wine communicated *permanent* strength and lasting vigour to the body; and having administered it to patients enfeebled by disease, exhausted by weakness, and worn out by pain, when by this means their recoveries have been effected, the prescribers have felt confirmed in the principles on which they administered their favorite vinous remedy. Indeed many years elapsed before its true mode of producing these desirable purposes was established; which

* Edwards's History of the West Indies.

which is now generally allowed to be by imparting *action*, but not *strength*, excepting indeed for the moment.

It would be carrying the reader too far to enter very diffusively into all the medicinal qualities of wine and spirits, together with the various complaints in which their limited use is attended with the most beneficial effects. One circumstance, however, respecting their properties it will be necessary to impress upon the minds of my readers, viz. that in all that class of diseases which are called inflammatory, or which depend upon the increased action of the sanguiferous system, the administering such liquids is nothing less than adding fuel to the fire. Yet gross and too often fatal effects are daily produced by persons uninformed, or rather *mis-informed*, of their *true* properties; which are (as was before observed) to increase the action of the heart and arteries, producing their effects first locally on

the stomach, and afterwards on the constitution in general. I mention these circumstances in order to point out the danger of indiscriminately complying with the frequent applications, and even urgent intreaties that are made by poor persons of the labouring class to their humane and more opulent neighbours, when first affected with *inflammatory* disorders, to which persons employed in agriculture are peculiarly liable; and who would with difficulty be persuaded that *water*, would be more proper for them under such affections than vinous medicines. Thus also women, soon after their delivery, often suffer materially in these respects through the officious, though doubtless well meant, interference of their ignorant attendants.

Wine, when taken on an empty stomach, will sooner produce intoxication than when it is drank after eating; particularly in those persons who are not habituated to the use of it: a full meal
too,

too, after long fasting, will be productive of great excitement of the system, shewing itself in feverish heats or flushings, particularly if spice, as in soups, and a few glasses of wine be taken at the commencement:—a practice which in large dinner parties is very prevailing. The advice of Horace* may here with great propriety be recommended, viz. to commit nothing to the *empty* vessels but what is mild and lenient in its nature.

When I remark the intoxication so quickly produced by wine or spirits taken on an empty stomach, it must be remembered that I am speaking of their effects upon persons who are not habituated to take them under this circumstance; otherwise, I am well aware that an argument may be advanced which apparently makes against this effect in the examples of many morning drinkers,

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drinkers,

* ———“*Vacuis committere venis*
Nil nisi lene decet.” ———

drinkers, who are from habit *obliged* to have recourse to such cordials, to prevent those pains and flatulencies which are the inevitable attendants on impaired digestive organs; to whom, however, though taken as a present antidote, they ultimately prove a bane: but this I shall endeavour to explain more at large when their abuse is considered.

Again, wine is frequently given with the most serviceable effects to persons labouring under slight temporary indispositions. Examples of this particularly occur in those who are suddenly exhausted by fatigue, producing great languor, faintness, or excessive perspiration, and in those whose strength has been considerably diminished by fever, or profuse evacuations of any kind: but, even in these cases, it should be given with great caution, so as not to induce *intoxication*; for should *this* take place, some part of the system must act more feebly from the unnecessary expenditure

penditure of vital power. It is necessary that this circumstance should be particularly attended to in low fever, and in many other diseases accompanied with great weakness of the system.

Here then are instances apparently in support of the strengthening power of wine; but to suppose this to be really the case, will be found to have been reasoning upon false principles; the vinous spirit having in these instances only produced *action* (not *strength*), and, by its stimulant power on stomachs perhaps little accustomed to its use habitually, having enabled them to retain, for the nutriment of the body, such a portion of food, as their depressed or exhausted powers were not, otherwise, sufficient to bear.

The French in some of their late destructive battles seem (if we may credit report) to have been well acquainted with the stimulant powers of wine and spirits, in producing tem-

porary action; and in order to increase this effect, are said to have secretly mixed a small portion of *opium* with the brandy distributed to their soldiers previous to such engagements; but let it not be forgotten that the strength and valour of our own countrymen, fed with animal food and their usual beverage,* have enabled them, in all their naval actions, to atchieve far greater victories, and with less injury to their constitutions, than could be effected by the forced and therefore only temporary exertions of their Gallic opponents.

With regard to *opium*, I will venture to remark that it must doubtless appear extra-

* I have been credibly informed, that the use of PORTER on board our fleets has been lately recommended and introduced by the ingenious Dr. Trotter, Physician General to the fleet, instead of the fiery spirit whereof the *grog* is composed, which forms the daily beverage of our sailors; and there can be no doubt but its effects will be found highly conducive to health.

One reason, most probably, why sailors do not suffer more from the daily use of *spirit*, may be the small quantity which is regularly served to them, and the laborious exertions they undergo in the course of their naval occupations.

extraordinary that any difference of opinion should exist with persons of the medical profession, respecting the effect of this drug, particularly when it is considered how long it has been employed in the practice of medicine; but some there are who still rank it as a *sedative*, others consider it as truly *stimulant*, and many who esteem it as both *stimulant* and *sedative*. This difference in opinion appears to have its rise from the difference in effect, which variously takes place accordingly as it is administered; as a stimulant, it stands higher in the scale than wine, though it produces nearly the same operation; in a large dose its effect is first to be *stimulant*; which is proved by its exhausting or wearing out the living principle (as other stimulants do), though at first indeed imperceptibly, except by the pulse; secondarily, it proves *sedative*; which is shewn by its procuring ease, or producing sleep.

Wine

Wine quickens the pulse, raises the spirits, and gives more than common animation *for the time*; but no sooner has the intoxicating delirium ceased than the patient becomes weak, enervated, and depressed in mind and body: here we distinctly see both the stimulant and sedative powers of wine; and the same exactly holds good with regard to *opium*.

In the typhus or low fever, I believe the cordial and exhilarating power of wine stands unrivalled, if taken as a *medicine*; but the effects of this valuable liquor are very different under different circumstances. The sick chamber of the opulent invalid, who has for the greatest part of his life been accustomed to his bottle, or more, every day, will not furnish us with so many examples of recovery, effected by this mode of treatment, as the fever ward of a public hospital, the parochial workhouse, or the humble abode of the indigent

digent labourer: in the latter situations, if accompanied by cleanliness, and other necessary particulars, as air and regimen, it actually produces a recovery in some instances, and assuredly promotes it in all.

Wine diluted with water may be advantageously given to children who labour under weakly constitutions, particularly where there is a disposition to RICKETS, or where that disease *has* taken place. The same advice will be found proper in all the varieties of SCROPHULOUS AFFECTION; the mixing it with water renders it less hurtful to the delicate stomachs of children, and equally efficacious as a medicine. It is sometimes given to very young children under an idea of preventing or destroying worms; and though there are instances where it has been serviceable in such cases, when judiciously administered, yet it often proves (without due precaution) a most pernicious practice

tice, and, as such, cannot be sufficiently discouraged. But this will be more properly noticed when we come to consider the *abuse* of wine.

Having thus very briefly stated some of the *good* effects arising from the stimulating powers of wine in cases which require the use of it, I shall now endeavour to point out some of the most evident, and dangerous consequences resulting from its abuse. In attempting to do which, I am not ignorant of the many examples that may be adduced of persons who have enjoyed a long life, together with high spirits, though the daily habit of taking strong liquors has been indulged in :—of others also, who, enslaved by custom, or duped by fashion, insist not only on the *necessity*, but the *advantages* also, resulting from such a practice, with regard to *their peculiar constitutions*; and who consider as *dangerous*, and dread with *horror*, any change

change from a stimulating, to a diluting beverage, at their daily meals.

Some excuse may be made for arguments generally brought forward in support of a practice that affords comfort and satisfaction to many, who have been in the habit of pursuing it for a long series of years, without *apparent* injury to their constitutions; for such, indeed, an apology may be admitted, from their total ignorance, or their mistaken ideas of the means by which the human frame is nourished; and (particularly in early years) of the method by which its growth is forwarded; of the pernicious effects also, which are capable of being produced on the digestive organs of persons in health, by the daily and free use of wine and spirits. The consequences attendant on a stomach overcharged by taking at one meal a larger quantity of solid food than can be digested, are so evident, that they cannot be mistaken; but this

is by no means the case with respect to vinous liquors. The former would alarm a person by the sickness or vomiting which it would occasion ; whilst the latter, by giving false spirits to the sluggish faculties, would bring on such a degree of pleasurable sensation, as insidiously to induce a frequent repetition of the *stimulating* liquor.

Perhaps if we were attentively to observe these *apparently* healthy persons during the whole progress of the twenty-four hours, we should find them more or less affected by many deviations from sound health, evidently ascribable to this cause, though various in its effects : but as there is unquestionably a difference in the original constitutions of many persons, some may be more or less affected by the injurious qualities of strong fermented liquors. In addition to which, Dr. Beddoes has remarked, that there may be in some constitutions a power to resist, for a
great

great length of time, (though not ultimately), the effects of these powerful stimuli.

Many have imagined that the injuries to which the body is liable from drinking wine, proceed from a difference in the *quality* of the liquor; and though they conceive that *good* wine may be taken with impunity, yet they think very differently of what is called *bad*. Now, though I cannot take upon me to speak positively as to what constitutes the difference, or of what particular ingredients the latter wines are composed, yet I can with certainty affirm, that the worst consequences, with respect to disease, frequently take place where the *best* wines have been drank, especially if the daily habit of drinking them has bordered on *excess*; and to this the very goodness, age, or other supposed excellencies of the wine, will generally act as an inducement; for the better the wine, the greater, it

is probable, will be the quantity consumed.

These sentiments are expressed also in an old poem written at the beginning of the present century, viz.

“ *Good wine* will kill as well as *bad*,
When drank beyond our nature's bounds ;
Then wine gives life a mortal stab,
And leaves her weltering in her wounds.”*

The only difference in the strength, and consequently in the bad effects of foreign wines, arises, principally, from the quantity of ardent spirit or brandy mixed with them, in addition to what they naturally contain ; for some portion must always be added, and to white wines in particular, to prevent such fermentations as would necessarily be occasioned by their sea conveyances to England. *Claret*, perhaps, has less the disposition to ferment than port, or some other wines ; and, on this account, it may possibly require a smaller portion

* Floyer, on Cold Bathing, p. 420.

portion of spirit to be added to it (independent of the original quantity it possesses) previous to its being transmitted into this country; hence it has always been esteemed less potent, and therefore generally called a *light wine*: a title given also to some other *French wines*.

It is a singular circumstance, that *Madeira wine* should afford no tartar as other wines do, and must therefore consequently contain a quantity of fixed alkali, in an uncombined state: on this account most probably it is, that invalids, or gouty persons, with depraved appetites, and weak stomachs disposed to acidity, find it to agree with them better than other wines. It is possible therefore that sherry, and some other of the foreign white wines, may be found equally useful in such cases, by the addition of a small quantity of salt of tartar. As this wine contains also a large portion of spirit, it is slower of

fermentation, and therefore does not become fine so soon as other wines; but when once *this* is completed, it is more lasting; on which account Madeira is not considered in perfection, till it has been well agitated on ship-board, and experienced a warmer climate, to assist in accomplishing this effect.

It may not be improper, before stating the various injuries which the digestive organs, and the different functions, dependent upon them, are liable to, from the abuse of strong liquors, to give the uninstructed reader a short account of the process of *digestion*; which is, strictly speaking, the preparing of the necessary fluids from the aliment received, for the nutrition and growth of the body in youth, and for its support and continuance, in more advanced years.

Digestion, to speak generally, may be said to take its commencement in the mouth; from whence the food, after
having

having been properly masticated by the teeth, and mixed with the saliva, is carried into the stomach: it is there acted upon by a liquor called the gastric juice; and having remained here about two or three hours, it becomes coagulated, or converted into a pulpy substance, in which state it passes out of the stomach into the duodenum, or that part of the intestinal canal attached to, or rather in continuation from the stomach; there it acts upon the liver and the gall bladder, and, by a certain law of the animal œconomy, occasions a supply of bile, together with the secretion of a fluid (resembling the saliva) from a large gland called the pancreas or sweetbread. The aliment now, assisted by what is called the peristaltic motion of the intestines, proceeds slowly along this canal, viz. the intestinal, which is six times the length of the whole body, and forms many circumvolutions in the cavity of the abdomen;

during which process the absorbents take up chyle to be converted into blood, and into other secretions for the purposes before mentioned.

It may here be remarked that the *inner* coat of the intestines, being more capacious than the external one, occasions a multitude of *plaits* or *foldings*, at regular distances from each other, which become less and less, at farther intervals, as they descend. All this is contrived for the wisest purpose; for if the inner surface were smooth, and destitute of these *plaits* to interrupt the progress of the aliment, it would pass with greater rapidity to its termination; so that sufficient time would be wanting for the necessary absorption which supplies the waste. Thus a constant stock of nutriment being converted into solid or other fluid secretions, as occasion and necessity require, constitutes the essentials of life and health.

It must be remembered that the stomach always retains its own proper form within

within the living body, and is *always* full, whether it contains an ounce, a quart, or any other quantity of solid or fluid material, being always adapted to its contents, and being also capable of much greater contraction and dilatation than any other cavity of the body.

From experiments made by Dr. Fordyce, it appeared, that the coagulating power of the *gastric juice* was very great; and this property in the coats even of the dead stomachs of animals, seems to have been known for a great number of years, since an infusion of the dried stomach of a calf has been employed in all ages to coagulate milk in forming cheese.

Dr. Fordyce found that *six* or *seven* grains of the inner coat of the stomach, infused in water, gave a liquor that coagulated upwards of *two* quarts of milk.

Many have supposed that an infant's bringing up of curdled milk, was a sure sign of some undue acidity in the stomach,

mach, not being aware that the coagulation of this fluid was a *natural*, not a *morbid* process; though the vomiting indeed may be a morbid symptom, occasioned by improper food, as bread and water, gruel, &c. &c. but this does not hold good with respect to the stomachs of adults: here *acid* is certainly generated from very obvious causes, viz. deficient or exhausted power of the digestive organs; in which cases it is evident that this power is not sufficient to prevent the disposition of vegetable substances to go through the different fermentations that they would do in the same heat *out* of the body; in consequence of which, eructations of wind generally accompany this unnatural process: for it must be observed that *vapour* or *gas* in the stomach, or indeed in any part of the intestinal canal, is, strictly speaking, a *morbid affection*, though perhaps only a momentary one; and it may be admitted as an axiom, that

that two such processes cannot go on at the same time, as *digestion* and *fermentation*; for which reason, neither animal nor vegetable substances can undergo their natural and spontaneous changes, whilst digestion is going on; a process superior in power to that of fermentation.

The excrements of animals are supposed to be that part of their common food which is indigestible; and the power of digestion may, in some instances, be ascertained by the appearance of them; for if the food which has thus passed the body, appears not to be much altered, and of an unusual colour and consistence, we may conclude that this power had little or no influence on it; and it is an undoubted fact, that food, which, for any of the reasons before assigned, is *not* digested, cannot have produced any nourishment.

Digestion then we find is very different from mere *chemical solution*; and the most extraordinary circumstance attending it is,

is, that it converts both animal and vegetable matter into the same substance or compound, which no chemical process can effect.*

It may be regarded as an established law of the animal œconomy, that nourishment is produced in the best manner by food taken in a *solid* form (except by infants), provided the stomach be in perfect health, and its functions uninjured by disease. A principal advantage of this law seems to be, that our food is first chewed in the mouth, and mixed with the saliva; and next, that it is longer retained in the stomach, and consequently is much better assimilated or digested.

Upon this principally depends the growth or restoration of the human frame; for nutritious substances can only pass into our bodies, and become truly

* Further remarks and experiments on digestion may be found in Hunter on the Animal Economy, 4to. Johnson—Fordyce on Digestion, 8vo. Ditto—Spallanzani's Dissertations on Ditto, 2 vols. 8vo. Ditto.

truly useful to us for such purposes, *after* they have been, by the power of the stomach, rendered homogeneous, or similar to our substance. Whatever therefore interrupts, or deranges this process, must be injurious to *health*, and ultimately to *life itself*.

Injuries are capable of being sustained by the digestive organs of young children, at a much earlier period than many parents usually imagine, whose improper management of them frequently proceeds much more from ignorance, than from direct imprudence; as when such substances are given to new born infants as their stomachs are utterly incapable of digesting, and who are therefore, on this account, continually requiring the aid of medicine. For this reason indeed the lives of many children may be said to consist in a perpetual struggle between remedy and disease, the one often proving as destructive to sound health as the other.

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Great pains have been taken by many medical writers to prevent these early injuries, to which most infants are liable; but from their writings not being generally considered, and perhaps too, from an aversion in many parents to deviate from long established customs and opinions, little progress has been made, and few improvements have been adopted, in this important department; and it is a lamentable truth, that the difficulty of conquering other prejudices, on the same subject, is much greater than can easily be imagined by persons, who have not actually, and professionally, had occasion to attempt the experiment.

When it is considered, therefore, how *very important* the office of digestion is to the healthiness of the body, one would imagine little resolution would be wanting, to enable us to resist the temptation of taking such substances into the stomach, as may very materially
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tend to interrupt this process. Wine and spirits have a peculiar tendency to do this, if taken to excess; first by too quickly stimulating the coats of the stomach, and thereby destroying the quality, as well as defeating the power of the gastric fluid; secondly by a contiguous sympathy, or affection of the adjacent parts, acting upon the liver, and by this means promoting the absorption of the bile, before it is poured into the intestines, or in great measure preventing its secretion. Of both these effects we have many proofs in the jaundiced countenances of those who have been, or still continue to be, hard drinkers; as well as in the great costiveness to which they are liable, and which they are continually endeavouring to remedy by cathartics, such as *Scotch Pills*, *Daffy's Elixir*, *Analeptic Pills*, and various other nostrums; whilst the *principal* cause, remaining unsuspected, is consequently disregarded.—One very important use

of the bile, is to stimulate the intestines, and thus naturally to perform the office of a purgative ; but if this secretion be prevented, by the stimulants before mentioned having been taken to excess, the intestines then being deprived of their intended and proper stimulus, become torpid, and of course costiveness ensues. This torpor also being diffused by sympathy through every part of the system, languor, relaxation, and lassitude prevail.

Long fasting likewise weakens the digestive powers ; and if the appetite continues, a large quantity of food being taken at a late dinner, together with much fermented liquor, the digestive faculties of the stomach by this means become very soon exhausted. In this case there must of course exist *less* bile, to assist the process of digestion, though *more* be wanted ; so that the patient finding the feeble powers of the stomach insufficient, has, in general, recourse to
further

further stimulants, as wine or spirits; thus increasing the disease, by the remedy he has recourse to, for removing it.

Grief and anxiety of mind often weaken the powers of the stomach, and ultimately those of the liver, and thereby lessen the secretion of bile. A sedentary life will, in some constitutions, also, produce this effect.

Dr. Saunders* asserts, that in many cases, the abuse of vinous spirit disposes to jaundice evidently of the most unfavourable kind, because generally accompanied with diseased structure of the liver; and that the stomachs of persons who have died under the habit of drinking drams, have, on dissection, generally been found in a flabby and inelastic state, capable of secreting only diseased fluids. This loss of tone in the stomach, is often accompanied by

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tremors,

* Saunders on Diseases of the Liver, 8vo. Robinsons.

tremors, heat, and a propensity to palsy, loss of memory, &c.

He also remarks, that when diminished secretion of bile is attended by indigestion, flatulent eructations, &c. the quantity of food taken at one meal should be moderate, and that "*water* should be the *only* liquid drank with such meals, as more effectually promoting digestion, than fermented liquors of any kind."

Celsus's rule also may here very properly be recommended, viz. "Never to eat much at one meal after long fasting, or to fast too long after eating."

Dr. Maclurg,* treating on spirits, bitters, &c. says—"By the short-lived force they occasion, they have obtained the name of *strengtheners*, and may indeed answer a temporary purpose, but their habitual use will certainly prove pernicious. Unhappily (he observes) they are resorted to for present relief,
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* Maclurg's Experiments on the Human Bile, 8vo. Cadell.

by those who have most reason to dread their debilitating effects:—such persons would certainly do right in exchanging, by *cautious* degrees, all the varieties of spirituous liquors, for *simple cold water*.”

Wines prepared with ripe fruits, as currants, raspberries, &c. would be a pleasant exchange for the more potent wines of Portugal, &c. though at first they commonly disagree with persons who have been long accustomed to take the foreign wines; their stomachs having been so habituated to the latter, that they cannot bear any thing of an opposite quality, without being affected with heartburn, flatulency, and cholic: a little time and proper management would *subdue* such effects, and the state of the stomach and its appendages, would be greatly benefited by the gradual exchange.

It may not be useless to inform such persons as are in the habit of taking these wines, or strong perry, or cyder, that

prophylactic
 (if they are *inclined* to lower the strength of the liquor by mixing water with it) if the water be *first* poured into the glass, and the wine immediately after, most of the fixed air contained in such wines, &c. will be absorbed by the water, and the mixture will not have that flat or mawkish taste which it generally has, particularly if the wine be first poured into the empty glass, when great part of the fixed air would necessarily escape.

A very pleasant liquor, resembling claret in flavour, may be obtained by adding, in a similar way, about one part of *water impregnated with fixed air*, to two parts of port wine; and the composition would be still better if mixed in a decanter, into which the *wine* should be first poured, in order to absorb all the fixed air contained in the water.

To recur to what has been advanced respecting infancy, let us consider the state of an infant at its birth, when it
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is a mere compound of matter so organized as to be capable of being acted upon by various stimuli, necessary to its existence. Immediately at its entrance into *respiratory* life, the first stimulus it receives is a quantity of atmospheric air in the lungs; this, with the addition of *milk* taken into the stomach, seems all the exciting power necessary for it, or that it is capable of bearing consistently with health. In this state there is the keenest excitability, and the mildest food so rapidly exhausts it, as to produce almost constant *sleep*, (nature's restorative to recruit our exhausted powers) and which should be *encouraged*, rather than *interrupted*.

This *irritability*, *excitability*, or *living principle*, (or call it by what name you please) is daily diminished by the ordinary powers or stimulants by which life is supported.

Life then, which is (according to the theory of some sagacious Philosophers)
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a *forced* state, depending on the action of external powers, as *air, food, heat, &c.* &c. is, from its first commencement, an incessant exertion of *agency* and *power*, which tends, in the early period of our existence, to *forward* our growth; in the next, to *establish* and *support* it; and at last, to *waste* and *destroy* it; and this takes place alike in man and animals, and may be extended also to every thing that is vital in nature, and therefore is applicable to vegetables.

Let us now apply this reasoning to the subject to be particularly considered; and we shall be able with some degree of certainty, I presume, to infer—that the more speedy vital consumption shall be, the more rapidly *life*, or the powers dependent on it, will be exhausted; and this holds good with respect to *mental*, as well as *corporeal* exertions; to the voluntary as well as the involuntary actions of the living system, which in the latter periods of our existence, as well as in the

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the more early (if forced or stimulated *too much*) are perpetually consuming both the organs and the powers.

Mr. Christie, an ingenious student at *Edinburgh*, some few years past explained the doctrine of life in so easy and familiar a style, as could not (from the justness of the analogy) fail to be pleasing and satisfactory.

He represents life as fuel burning in a grate, which he compares to the *human frame*; the fuel he considers as the *matter of life*; and the *air*, as the *stimulus* necessary to its support.

Now as (by the latest chemical experiments) air admits of various modifications, these he regards as different *stimuli*, some capable of promoting and continuing, and others of destroying life. The application of these powers resembles the application of food and drink to the human body; i. e. though they bring forth life, yet also, after a given period, they waste the living principle.

ciple or *matter of life*; just as *air* blown into the fire, brings forth more *flame*, but wastes the *fuel*, or *matter of fire* it acts upon. This is particularly evinced in the duration of life among the inhabitants of warm climates, who arrive more early at maturity, and whose lives, therefore, are sooner brought to a conclusion than those of colder regions.

If the above analogy be true, it will not be unjust to conclude that the application of *unnecessary* stimuli to children, in early life, cannot but be highly detrimental to their *future*, if not to their *present* health and welfare; but it is a difficult task to convince some parents, that if immediate mischiefs do not take place, future bad consequences will not ensue.

I was once so fortunate as to convince a Parent by a little irony, where serious arguments had failed; and I hope my readers will not think I intrude too much upon their time by relating the
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circumstance.—It happened that soon after a heavy tax was levied on foreign wines, I was dining with a lady, who, as she poured out a glass of port wine for her child, about five years old, then sitting at the table, wished, “for the child’s sake as well as for her own, that the duty had been laid on something else;” I observed to her, that, though it was probable *she* had been too long in the habit of drinking wine to relinquish it without great care, and proper management, yet, that she might easily substitute something for the *child* which would be less expensive, as well as answer *all* the purposes of wine; and I assured her that “a tea-spoonful or two of spirit of lavender, mixed with a little water, would have a similar property; and if that was not found sufficient to produce exhilarating effects, she might add a few drops of laudanum to each glass!!!”—The lady told me she was “surprised to hear me
recom-

recommend *medicine* to a child in perfect health and high spirits;" I replied, " that she was in the daily habit of giving her child just such a medicine, and which could not fail to have as pernicious an effect as what I proposed, and perhaps worse, because the child becoming by degrees habituated to wine, its effect as a cordial would soon be lost, if illness should ever occasion her to have recourse to it; besides which, it must be remarked, that the practice was no other than an early, and very natural introduction to stronger liquors:" this has been observed by Dr. A. Fothergill,* who relates the case of " a certain youth, who, having rapidly run through the scale of intemperance—beginning with malt liquors, then wine and water, next brandy and water, with sherry taken at his meals, as freely as small beer;—then brandy alone, and at last, highly rectified

* Essay on the abuse of Spirituous Liquors.—Bath.

fied spirit of wine; before he had emptied the *third* bottle of this, died of extreme old age, at the early period of *twenty-eight*." The lady took no further notice at this time; but I had soon after the satisfaction of being informed, that she had gradually left off the practice of giving her child wine.

In answer to this instance of conversion, it may be said, if wine proves so detrimental to the constitutions of children, how does it happen that so few complaints seem to accompany its use, considering the *universality* of the practice, particularly at the tables of those persons whose circumstances and rank in life, added to the remembrance of what they themselves were accustomed to when young, have given (in the opinions of many such parents) sufficient sanction to this prevailing custom? To this I can only reply, that it does not necessarily follow that its bad effects should be *immediately* apparent;

the foundation, however, may at this time be laid for future diseases, of which the *mistaken* kindness, or *false* indulgence of the parent has little suspicion: but the decrees of fashion are so arbitrary, and the prejudices in favour of long established customs are so strong, that it requires *some* resolution to oppose, and *much more* to conquer them.

It would be well if the custom of giving wine to healthy children after dinner were banished for the more wholesome, and far pleasanter, practice of treating them with ripe fruit, when the season will admit of it, and with preserved fruits or sweetmeats in the winter. As a test of their superior salubrity, I will further intrude upon my reader's patience whilst I relate the following facts:

A late ingenious surgeon, occupied for a great part of his life in experiments equally well conceived, and accurately executed, gave to one of his children

children a full glass of sherry every day after dinner for a week: the child was then about five years old, and had never been accustomed to wine:—to another child, nearly of the same age, and under similar circumstances, he gave a large china orange for the same space of time:—at the end of the week he found a very material difference in the pulse, the heat of the body, the urine, and the stools of the two children. In the *first*, the pulse was quickened, the heat increased, the urine high coloured, and the stools destitute of their usual quantity of bile; whilst the *second* had every appearance that indicated high health. He then reversed the experiment: to the first mentioned child he gave the orange, and to the other the wine; the effects followed as before described:—a striking and demonstrative proof of the pernicious effects of vinous liquors on the constitutions of children in full health.

Indeed it may be said of wine, as of every other medicine calculated to *remove* or *cure* disease, that the same may also *produce* it; as is the case with many of the most *active* medicines, if incautiously administered; for whatever tends to effect new actions or useful changes in the body, will, under certain circumstances, be attended with contrary effect; and it may be said of parents in this, as well as in many other instances, that they comply with the prevailing custom of the day, to avoid the ridicule of singularity, whilst, at the same time, they are utterly unacquainted with its injurious effects.

Having before mentioned the practice of giving wine to children as a remedy for worms, and having allowed that in some cases it has, with other means, been found useful; it may not here be improper, when speaking of the *abuse* of this stimulant, to remind my readers, that if it is considered as a *remedy*, it surely

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ly ought to be an argument against the *daily* use of it by *healthy* children : for, when it proves serviceable in worm cases, I presume it is by increasing the action of the stomach and bowels. The same effects are often produced by accidental inflammations, or by fevers, and worms being evacuated at these times, has been by many persons esteemed a sufficient reason for calling such complaints *worm fevers*.

If wine then possess such powers as a *medicine*, when administered to weakly children, it must have *some* effect when given to those in perfect health:—it cannot be *active* in some habits, and totally *passive* in others;—but its bad effects not being *immediately* evident, are never thought of when the causes of children's complaints are enumerated, or referred to, by their fond parents. Again, permit me to ask where a parent could be found, who, having experienced the efficacy of tincture of

bark, of cinnamon, or any other cordial stimulant, in assisting to restore his child from extreme weakness to its former health, would continue to administer the *medicine*, when this salutary purpose had been obtained? I conceive it would be more natural, to recollect with pleasure, its good effects when given in disease, than to deprive the child of such assistance hereafter, by anticipating, and precluding the true use of it, by daily habit, and *abuse*.

The analogy between animal and vegetable life is assuredly much stronger than may perhaps on a slight review seem evident; children *forced* by unnatural stimulants, as *wine*, and *heat*, become like plants in a hot house, which have their lives shortened in proportion as the stimuli of *heat* and *manure* are applied to them. In this way though more early and premature qualities are sometimes produced, yet the *life* of the plant is sooner exhausted and shortened; the
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same holds good, in many respects, with regard to young children. Were all the known properties that vegetables possess, in common with animals, to be here related, as sensation, perspiration, respiration, sleep, &c. these analogies would appear more striking; they may be met with amply described in the ingenious and instructive notes to the 2d vol. of the Botanic Garden, by Dr. Darwin; and also in the 5th vol. of Dr. Watson's Chemical Essays.

If then so active a medicine as wine be given in any *quantity* to a child with its appetite good, its evacuations regular, its sleep uninterrupted, and, in every respect, in perfect health, what must naturally be its effects? generally they are of two kinds; first, if the child be predisposed to plethora, or fullness of habit, some of the inflammatory diseases are often produced, or considerably increased (if they have already commenced in a slight degree) as cough,
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with affections of the lungs, frequently laying the foundation, and hereby becoming the remote cause, of *pulmonary consumption*; sudden and violent *inflammation of the bowels* is likewise often occasioned, and sometimes *hydrocephalus*, or *watery head*, two cases of which I have met with in children of five or six years old, evidently owing to this cause: —for *hydrocephalus*, though a *consequence* of disease, as well as a disease itself, is now, I believe, supposed to be preceded by inflammation of the membranes of the brain, as other dropsies are produced in consequence of inflammations, previously affecting the various cavities of the body. But if an opposite and very different predisposition exist, which is frequently the case with *weakly* children, then the mischief perhaps does not discover itself till more advanced years, when stomach complaints, with all their endless train of nervous affections, as they are commonly

monly called, render life a misery to its possessors, and a constant prey to medicine.

I have sometimes observed that parents, who are in the *daily* habit of giving their children wine, very frequently refuse them some articles of food which are highly nutritious, as *Sugar* and *Butter*. This prejudice, with others of a similar kind, seems to have lineally descended, like many hereditary diseases, from one generation to another; and even weakly children, who stand most in need of *these articles*, are rigorously denied them:—particularly the latter, under an idea of the child's being “filled with humours.”

As a proof that the *first* is nutritious, we need only examine the human milk, which, when taken from the breast of a healthy woman, will be found to contain a larger proportion of sugar than the milk of many other animals, and which does not differ in any of its properties

perties from that extracted from the sugar cane.*

Mr. Hunter has remarked that, although the nutritive qualities of sugar have not been so universally known as to introduce it into very general use as a medicine, yet they have not entirely escaped the notice of practitioners. Mr. Vaux, from observing the negroes in the West Indies become *fat* during the sugar season, was induced to give it to many of his patients, and with very good effect.

Mr. Hunter also has prescribed it with great success in many cases as a restorative. Dr. Saunders likewise recommends sugar upon the same principle. Butter certainly differs very much under different states, and has been found to produce very unpleasant effects where culinary heat has been applied

* Sixty-seven grains of sugar have been obtained from a quarter of a pint of human female milk, and fifty-four grains from the same quantity of cow's milk—in that of mares and asses rather more sugar is contained than in either of the two former.

plied to it, as in rich pastry, or fried meats, &c. but in its *pure* state, when fresh made, as it then contains only the oily and mucilaginous parts of milk, it cannot fail (if given in moderate quantity) to be nutritious, and therefore wholesome.

It has been asserted by many writers of unquestionable veracity, that nervous diseases were less common a century ago than they are at present: and these complaints have been attributed to the more general use of tea* in the present times, than was formerly the custom;

* The practice of drinking a vegetable infusion after dinner, is, probably, of very ancient origin, and supposed to have been first adopted by the *Monks*, long before the tea leaf was introduced into this kingdom from China. This custom was, perhaps, originally founded on *medical* principles; some grateful bitter, prepared possibly from wild plants, having been by the *Medico-Theologians* of those days, esteemed useful (as in the present times) to assist digestion, particularly in persons who led sedentary lives, as the major part of such communities were, from the nature of their institutions, in some measure compelled to do.

The infusion now taken under the name of tea, is, to most persons (if not drunk too hot, and if mixed with a due proportion of cream and sugar) a pleasant, refreshing, and wholesome beverage.

tom; but few have taken into the account the too prevailing use of wine and spirits, by which this train of diseases, under different forms, has been rendered more frequent, as well as more difficult to subdue by medicine. Many other circumstances of modern luxury have contributed not a little to increase their variety.

It has been remarked by Dr. Darwin* that wine, given to children as a *reward*, is frequently attended with very bad effects, as teaching them to believe that wine is a valuable acquisition; and in this respect, often unguardedly, laying the foundation for their future love of it, even to intoxication and disease.

The health of children is also injured, and inflammatory diseases are frequently produced, by that species of temporary repletion which they meet with during their school vacations; when wine is often given to them in addition

* See Darwin's Plan for Female Education, 4to. Johnson.

tion to other indulgences of the table, which they had been perfectly unaccustomed to when at school. But notwithstanding these circumstances occur so frequently, yet their friends reflect not on their effects, till *illness* follows, which is sometimes (even *then*) attributed to very different causes. Occasional indulgence in the luxuries of the table, with the addition of more than our accustomed quantity of wine produces the same temporary ill effects in adults, and even in those persons who are more advanced in life ; as is very frequently experienced at public entertainments, and large dinner parties : where induced by custom and the example of our surrounding convivial friends, wine, together with stimulating food is inadvertently taken to *excess*, though not to such extent, as to produce sickness, or actual intoxication.

Sudden changes from temperate, to intemperate modes of living, have in

many cases been productive of the most incurable diseases. A striking instance of the truth of this remark occurred in *old Parr*, who, at the advanced age of 130, was in perfect health, and possessed the "*mens sana in corpore sano*." Some years before his death, his eyes, and memory, began to fail, but at the above period, he performed his usual work, and was accustomed even to the laborious exercise of threshing in a barn. In his 152d year the king being desirous to see him, he undertook a journey to London, but when at court, his usual mode of living was so totally changed, that he died very soon after. Dr. Harvey, who opened his body, could not discover the least symptom of decay in any part of it; he was therefore supposed to have died of *plethora*, having been too liberally treated by the king's servants.

Another instance is related by the late Sir John Floyer, of Richard Lloyd,
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a poor labouring man, born within two miles of Montgomery, who lived to the age of 133, and was a strong upright man, could walk well, had a good set of teeth, and no grey hairs; could hear distinctly, and read without spectacles: his food was bread and cheese, and butter; and his drink, whey, butter-milk, or water, and nothing else; but being, by a neighbouring gentleman, persuaded to eat flesh meat, and drink malt liquor, he very soon after, died.

Apoplexy, dropfy, palsy and other fatal diseases have, it must be acknowledged, been also produced by changes *too suddenly* adopted from an intemperate, to a temperate mode of life; which proves that neither alteration should be too abruptly commenced.

The pernicious effects of strong wines, and more particularly of ardent spirit, are first produced on the stomach, and from thence propagated through the whole of the nervous system; hence

arises the constant thirst, owing to increased absorption, occasioned by the stimulus of the vinous spirit; hence follow the tremor and mental dejection, in consequence of the langour that succeeds to increased exertion. On the *liver* wine and spirits seem to exert a peculiar action—the biliary secretions are deranged; the bile necessarily becomes vitiated, its regular course interrupted, and its salutary uses lost to the constitution: the spleen too is often affected, and becomes enlarged, probably, from the same cause. Appearances that may every day be met with, in some degree illustrate this, such as the effects produced on the livers of swine fattened by the distillers, who use the spirituous sediments of barrels for this purpose, and also the residuum of the grain. These animals, so fed, and kept at rest (which greatly assists the other means) would universally die of *diseased livers*, if not slaughtered in due time.

Horses

Horses too, during the winter months, when they have been long kept in a warm stable, and at the same time have been highly fed with corn, are frequently subject to a kind of jaundice, which is evinced, by the whites of their eyes becoming of a yellow tinge. This complaint (owing to the stimulating quality of their food, in addition to the heat excited by their clothing, &c.) may be most effectually removed, by giving them green succulent vegetables: and as the season of spring advances, the turning of them out to grass will always answer the same purpose.

I am acquainted with a gentleman near this city, who, in addition to his being an excellent chymist, is also well acquainted with many of the improved doctrines which relate to the animal œconomy. The method practised by him for keeping his horses in full health and strength, is, that of a well regulated mode of feeding them, and, during the

winter season, supplying them once a week with germinating beans, which are easily prepared, by putting a quantity into a stable bucket, and pouring as much soft water as will merely cover them; in which state they should remain three or four days, when they will begin to throw out shoots, and in this condition the horses will eat them with great eagerness, and advantage to their health. From the quantity of fixed air contained in them, their operation is generally diuretic.

Finding then that dry oats, if given to *excess*, accompanied by other stimulating circumstances, as artificial heat, &c. produce effects on these useful animals, similar to those which strong fermented liquors occasion to the human species, may we not by analogy infer, that oats in the stomach of a horse, may, by fermentation there, produce a kind of *ardent spirit*, by doing this, affect the liver, and by promoting the

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the absorption of a portion of the bile, occasion the appearance of *jaundice*?

Some horses are reported, by farriers who have examined them after death, to have "died rotten." The case here seems to be, that the liver having first become diseased from the causes before mentioned, the lungs partaking also of disease, are secondarily affected, and matter having been formed in consequence of previous inflammation, the animals are sometimes found to have died with more than half the substance of their lungs wasted, from whence I presume has arisen the idea of their being "rotten."

Similar morbid appearances are likewise often met with in the human species, amongst the votaries of Bacchus.

It cannot have escaped the notice of many persons, and of farmers and graziers in particular, that cows, are a race of animals not subject to the same train of diseases, whereby horses
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are apt to be affected, though they are by no means entirely free from complaints: but not being at any time fed with corn as horses are, and living for the most part upon green vegetables, in the open air, their health in general seems to be far better, and their bodies kept in a more laxative state; as cannot but have been observed by any one, who has been accustomed to walk much through their pastures.

The principle here referred to, namely, the salutary effect of a *vegetable* diet, as to its influence on the bile, (which has been proved by analization to be the same compound in *all* animals having stomachs and intestines) seems to be applicable to the case of men: and perhaps the greater number of persons who suffer from habitual constipation, would experience more relief from a due attention to such a cooling system of diet, judiciously proportioned to other kinds of food, than from any advertised medicine

dicine, that has ever been imposed upon the credulity of the public, to answer the same purposes; and which, unfortunately, such patients are continually *supposing* themselves under the necessity of having recourse to.

Some years past when the liver of the turkey was more esteemed as an epicurean rarity, than it is at present, and when the body of the bird was sacrificed to the *enlargement* of its liver, it is a well known fact that Gin constituted the chief part of its sustenance; which always produced the desired effect.

Dr. Darwin supposes that the fable of Prometheus, who had a vulture perpetually preying upon his liver, as a punishment for stealing fire from heaven, was hieroglyphically intended as an example, and warning, to deter *dram drinkers* from their pernicious practices. It is clear that affections of the liver, in consequence of vinous excesses, were well known

known at the time Shakespear wrote many of his plays, as may be inferred from the following pointed remarks :

“ With mirth and laughter let old wrinkles come,
And let my *liver* rather *beat with wine*,
Than my heart cool with mortifying groans.”

Merchant of Venice.

The same idea is conveyed also in the following :

“ Tho’ I look old, yet I am strong and lusty;
For in my youth I never did apply
Hot, and rebellious liquors to my blood;
——— therefore my age
Is as a lusty winter, frosty but kindly.”

As You Like it.

Wine or spirits, therefore, must of necessity, *prevent*, instead of *promote* digestion: and though bitter medicines, which are called *bracers*, are frequently found useful by assisting the absorption of chyle, when the digestive functions have been weakened by disease; yet their too frequent use, must, in some way, (perhaps not immediately apparent) be injurious to the constitution.

Upon

Upon this principle Dr. Darwin is of opinion, that the “ hop made use of in beer drank at our meals, may, as a *medicine*, be taken advantageously ; but, like all other stimuli, must be injurious as an article of our *daily* diet ;” and by adding to the noxious quality of the *spirit* contained in malt liquor, must contribute to the production of various diseases.”

The hop has been supposed in some degree to contribute to the production of gravel in the kidneys ; as intemperate wine drinkers are more subject to the gout, and ale drinkers to the gravel ; in the formation of both which diseases, Dr. D. is of opinion, “ that the alcohol or *spirit* is the principal, if not the only agent.”*

It has been generally imagined that hops were necessary to prevent the acidity of beer ; and that it was the *bitter* quality of the hop which effected this purpose ;

* Darwin's Zoonomia, vol. 2d.

purpose; but this has been found not to have been the case: the bitter indeed prevents the palate from discovering acid so soon, as may be observed by mixing extract of gentian with vinegar; but from some experiments which have lately been made to ascertain this, there can be little doubt, that, it is the *resinous* principle, and not the *bitter* quality of the hop, which prevents, in some measure, beer becoming acid.

Other disagreeable and frequently fatal effects result from the abundant use of fermented liquors, independent of the bodily accidents to which *intemperate* drinkers are liable during intoxication. One melancholy reflection worthy of remark is, that such persons very rarely recover from severe attacks of what are termed *putrid fevers*; the stimulating powers of wine, which they have habitually employed (when in health) having superseded every other stimulant, which it may be necessary to have recourse

recourse to in these diseases. The examples which might be adduced in proof of this, are so numerous, that it will be unnecessary to detail them in particular. Such must occur to the recollection of every person: So true is it in these instances, that wine

— “ Which nature did intend
T’ enlarge our life, perverts its end.”

BUTLER’S Satires.

“The advocates for “a short life and a merry one,” are here (even upon their own favourite principles) under the greatest of all possible mistakes, except with regard to the former part of the sentence. That lives have been *shortened* by such excesses, may be proved by innumerable examples; but we cannot, I apprehend, very consistently admit that much *real* mirth has been obtained, if we trace inebriation through all its consequences; the next day’s head-ach, the nausea, the feverish heat, the languor, and the depraved appetite, of which it is *generally* productive, even if

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the inconveniences stop there: and though drinking is frequently had recourse to, as a refuge from misfortune, it is undoubtedly an ill-judged one; and proves a solace so short-lived, that, when its effect is past, the spirits commonly sink as much below their usual tone, as they had before, been raised above it. Hence a repetition of the dose becomes necessary; and hence also it is, that they who have the greatest flow of spirits when bordering on intoxication, are the most depressed and dispirited when sober. Let him who drinks, merely to "drive care away," reflect, that he

—"Drinks but to forget, nor fees
That melancholy, sloth, severe disease,
Memory confus'd, and interrupted thought—
Death's barbingers—lie latent in the draught;
That in the flowers which wreath the sparkling bowl,
Fell adders hiss, and poisonous serpents roll."

PRIOR.

Wine therefore we find, though it occasionally "rejoices the heart of man,"
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is by no means a promoter of *longevity*, since we have known that those who *never* drank it, have attained the longest and most healthy lives: indeed, as a powerful stimulant that accelerates the consumption of *vital power*, it must tend very much, when used too frequently, or unnecessarily, to *shorten* life.

Perhaps it would be difficult to find any persons afflicted with true gout (except by inheritance) who have not been in a greater or less degree in the daily habit of drinking *fermented liquors*. The following extract from a treatise on the gout, by the great Sydenham, who was justly esteemed one of the best practitioners, and most faithful recorders of his day; who also fell a martyr to that disease (which he has so accurately described, in the 52d year of his age, 1689), shews the opinion *then* entertained of the effects of wine on gouty habits:

“ As to wine, though the common proverb intimates that whether a person

does or does not drink wine, he will have the gout; yet it is confirmed by the experience of a number of gouty patients, that wine is detrimental: neither do we grant that wine, used by way of common drink, helps digestion; but rather assert that it destroys it, unless in such as have drank it for a long time: for wine certainly depraves the ferments of the body, and wastes the natural spirits; and hence I conceive it is, that great drinkers die of gout, asthma, palsy, dropfy, and other cold diseases. Furthermore the continued, and the immoderate use of wine enervates the body."*

The benefit which may medicinally be obtained from wine, or spirituous liquors, to counteract exposure to extreme cold, if resorted to as a customary usage, is a very delusive, and a very destructive one: nor do the inhabitants of the coldest regions of the north afford

* Swan's Sydenham, 8vo.

ford any argument in justification of such a practice. They have their furs to comfort them, and enable them to resist the cold; but the use of spirits is little known amongst them, and therefore cannot be *ordinarily* resorted to, although greedily drank, when accidentally met with.

In the winter, among ourselves, parties are often formed for the purpose of conviviality and social enjoyment; upon which occasions, wine, and other liquors of the spirituous kind, are generally esteemed as welcome and necessary accompaniments. Armstrong, indeed, if not cautiously considered, or if interpreted too favourably, is capable of being brought as an authority for such indulgencies:

“Pale humid winter loves the generous board,
The meal more copious, and a warmer fare;
And longs with old wood and old *wine* to cheer
His quaking heart.”——

“*Art of Preserving Health.*”

The proper understanding of this passage, perhaps, would be, by referring it to the *agreeable*, the *dulce*, not to the *utile*, or the expedient, with respect to health. But as the subject of these pages is not mere pleasurable gratification, but health alone, it may be adviseable to enter a caveat against the *immoderate* use of wine in general, as friendly to warmth, and as a counter-actor of winter's cold. Nor shall I scruple to assert, that so far as health is regarded, the external means of preventing cold, together with a *moderate* quantity of wine or spirits, will, if repeated at proper intervals, do more towards keeping up *general* warmth, than any such stimulants taken to *excess*. For in this way they prove very destructive to life, by rendering the body more languid, after the exertion is abated, and consequently in a situation to suffer more from the impression of a cold atmosphere. In confirmation of this,

Dr.

Dr. Darwin* relates an instance of two men, who set out on foot to travel in the snow, one of whom drank two or three glasses of brandy before they began their journey; the other contented himself with his usual diet and potation; the former perished in spite of any assistance his companion could afford him; the latter performed his journey with safety. In this case the stimulus of the brandy, added to the exertions of walking, so weakened the dram drinker, that the *cold* sooner destroyed him; that is, he retained not power to produce sufficient *heat* to supply the waste of it.

The inference, however, to be derived from the use of wine, in cases of *extreme cold*, is not to be adduced as an argument in favour of wine copiously taken, in winter particularly, under the idea of habitually excluding, or counteracting cold. And no doubt more
genial

* Zoonomia, vol. 2d.

genial and truly beneficial warmth may be obtained from a good fire, warm clothing, and gentle exercise, than any quantity of wine (the more the worse), can possibly produce; and this too, without offering violence to nature, or producing any of those inconveniences which may be expected from wine alone.

Having stated every thing material that has occurred to me at present respecting wine, and perhaps more than may be necessary to prove its injurious effects when *improperly* drank, I shall now subjoin a few words on the subject of *distilled spirits*; which, when taken injudiciously, are generally productive of the worst consequences, though oftentimes recommended, and taken with the best intentions, nay frequently prescribed, and even sanctioned, by many of the faculty.

It would be absurd to insist that these are *never* useful or necessary; — but I believe it may be with truth averred,
that

that for *one* instance where their internal use may be salutary, there are *fifty* or more where it is evidently prejudicial. I will here enumerate a few of the most *glaring* mistaken ideas concerning their use, under the different names of Gin, Rum, and Brandy; all other spirituous cordials, being compounded from one or more of these liquors.

The first is a spirit distilled from the ripe berry of the juniper tree, having been first infused in a due proportion of ardent spirit, or brandy: an inferior kind of gin is prepared by distilling English brandy with a certain quantity of common turpentine. The essential oil of the juniper berry, as well as a watery infusion of it, possessing a diuretic quality, *Gin* has frequently been taken by persons subject to the stone and gravel, as a medicine very likely to *relieve*, if not to *cure* them. It would be foreign to the object of these Remarks to enter at large upon the theory of
such

such complaints, -in order to prove the mischiefs that are daily committed by persons ignorant of the real effects of this pernicious spirit.

Diluting fluids, it must be confessed, if taken in large quantities, will often (mechanically as it were) by quickly passing through the kidneys, wash away gravel when formed; and assisted by other chemical remedies called *solvents*,* will sometimes prevent the formation of gravel altogether. But the case is very different where any *spirit* is taken with this intention; the supposed means of cure, absolutely promoting, and keeping up the disease: and I believe an instance has *never* occurred of a patient having been *cured* of *stone*, or even of *gravel*, by drinking *gin and water*.

Rum, a spirit distilled from the sugar cane, after due fermentation, contains
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* It must be understood that, when speaking of *solvents*, I allude to *alkaline solutions*, *aërated waters*, &c. and not to any *quack nostrum*, the composition of which is supposed to remain secret.

an essential oil of a very peculiar, and, to many persons, of a very pleasant flavour. As in this spirit, more essential oil abounds than in a like quantity of brandy, it has been supposed to be less hurtful; nay, it has been esteemed demulcent, and nutritious, and on this account, has been taken by many patients afflicted with pulmonary, or consumptive complaints, as well as in coughs of different kinds:—a well known remedy in the former cases, is “*rum and milk*,” in the latter, this spirit mixed with honey, lemon, &c.

In the true consumption of the lungs, it is assuredly improper, through *all* the stages of this *formidable* disease; towards the latter periods of some coughs, when the inflammatory symptoms have subsided, and weakness has been the consequence, it may not be so highly prejudicial (when greatly diluted) as at the commencement of such complaints; but even in these cases, it is a remedy
of

of so dangerous a tendency, sometimes proving an unsuspected introduction to its habitual use, that, considering the number of remedies, superior in their effects, and less dangerous in their consequences, it cannot be necessary to have recourse to *Rum*, though esteemed and recommended, by vulgar opinion, as “ a never failing cure.”

The principal materials from which *Brandy*, (or spirit of wine, as it is called) is obtained, I have before mentioned at the beginning of these Remarks: its colouring matter is probably nothing more than burnt sugar, or an infusion of oak shavings; a small proportion of either, will impart a brown colour to a large quantity of fluid; and have the advantage, when so diffused, of being almost tasteless and inodorous.

This spirit is, I apprehend, even by healthy persons, in more frequent request than either gin, or rum. It has been often recommended by physicians
to

to persons with weakly stomachs in preference to wine; this having sometimes (by running into the acetous fermentation,) proved painful and troublesome, occasioning heartburn, flatulencies, &c.

Dr. Lettsom* asserts that, whenever he hears patients plead for some substitute for beer, or wine, under the idea of their "*turning sour on the stomach,*" his fears are alarmed, and his endeavours excited, to pluck the unsuspecting patient from the brink of destruction; this plea seldom being made till the exhilarating influence of spirit has been experienced; and therefore (he remarks) not a moment should be lost in warning such persons of their danger.

The late excellent Dr. Fothergill is said to have declared a short time before his death, that he greatly repented, and felt infinite concern, at the idea of having either prescribed, or sanctioned,

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* London Medical Memoirs, vol. 1.

a practice of this kind ; having had occasion to observe the very unfortunate habits in these respects, which had unguardedly stolen on some of his patients.

For those eructations, or risings on the stomach, as they are called, sometimes occasioned by eating goose, or pig, or other highly flavoured oily food, spirits, or *liqueurs*, are often taken. When the desired effect is produced by these means, their action must not be considered as that of *assisting* the digestion, (as is vulgarly supposed), but, on the contrary, that of stimulating the stomach to contract, and to propel its contents into the intestines, before digestion is completed. Strong old cheese will, with many persons, have a similar effect ; but a glass of cold water, or a meat-spoonful of *finely powdered charcoal*, taken in a glass of water, would (as far as the effect goes) be to the full as certain, and much less prejudicial to the organs of digestion. The serious *sober* class of men

(as

(as they are termed) who most evenings take their brandy or rum and water, are, by no means, aware of the degree in which they injure their digestive faculties, and consequently their general health, by indulging in such destructive habits; and which, at one period or other of their lives, will certainly prove their effects mentally or corporeally, or perhaps by both ways; for the dose, being generally increased, seldom fails to occasion some one, or more, of that numerous train of diseases usually attendant on such causes; of which I have myself witnessed many striking and melancholy examples.

Instances also might be enumerated of *both* sexes, who oppressed frequently by affliction, anxiety, solitude, disappointment, &c. are too often tempted to alleviate their cares, and to discard their sorrows, (for a time at least) by the exhilarating, or anodyne remedy of spirits, either genuine, or mixed with water.

If the encouragement to pursue this plan does not lead such persons to an *habitual* practice of drinking, they may perhaps reap *temporary ease*, and escape the danger; but this is a good fortune which so seldom happens, that the experiment is always very dangerous, and the event is always very doubtful.

Dr. Lettsom observes, that there is something in spirituous liquors so *injurious* to the human frame, that too much attention cannot be paid in discouraging their use.

Did we seriously consider their pernicious effects, when we reflect on their general tendency, we should most probably be obliged to acknowledge that “violent but slow poisons, are taken daily; and that a little custom renders their effects first grateful, and at length necessary; whilst the changes they introduce into the structure, and functions of our bodies, escape our notice.”

Perhaps

Perhaps we have to lament with a modern author,* that “ the epithet of *strong*, being applied to *beer*; and *spirit*, being given to *brandy*; may have induced many persons to suppose that *ale* produced *strength*, and that *brandy* created *spirits*. Thus it may also be considered as an unfortunate circumstance, that *brandy* is called *aqua vitæ*, and *eau de vie*; in consequence of which, it has proved to nations who never heard of the English term *spirit*, to be *aqua mortis*, or *eau de mort*.” Thus, in one of our favourite comedies, the same idea is inculcated — “ *Strong* ale, to be sure, or how should we be *strong* who drink it.”† As a *jeu de mot* this may not be amiss, but medicinally speaking, the conclusion assuredly does not follow.

Of all the *baneful* compositions prepared with ardent spirit, *Shrub* is perhaps the least so, if diluted with a proper

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* The Four Ages, &c. by W. Jackson, of Exeter, 8vo. Cadell.

† Beaux Stratagem.

quantity of water, because a very large proportion (possibly nearly one half of the liquor) becomes in reality a kind of mucilage, (which is nutritious) by means of the sugar and fruit contained in it.

I am acquainted with a medical gentleman of great respectability, who drinks no ale, or wine, but has for many years been in the daily habit of taking rum and water, after his meals, only; prepared by an *exact* but small measure of the spirit, and a very large proportion of sugar; this too he does with little inconvenience to his general health; yet even *he* is by no means free from gout.



IT may perhaps generally be asserted in favour of abstinence from strong fermented liquors, that the *temperate* man is, in reality, the greatest epicure, and the truest voluptuary; for such undoubtedly

edly he is, so far as the perfection of enjoyment, depends on the perfection of the human faculties of mind and body. He can also with less risk to his constitution, partake in the indulgence, and sustain the consequences of occasional festivity, than the habitually intemperate: such an one, Horace well observes (with a slight alteration)

“ Can jovial wander, when the rolling year
Brings back the festal day to better cheer;
Or when his wasted strength he wou'd restore,
When years approach, and age's feeble hour
A diff'rent treatment claims: but if in prime
Of youth, and health, you take before your time
The stimulants of life, where is their aid
When age, or sickness, shall your strength invade?”

HORACE'S Satires, b. 2.

This is the principle which is here meant to be inculcated, not to throw blame on wine *indiscriminately*, or to recommend the entire *disuse* of it, but rather to guard against the *misuse* of that, which as a valuable medicine, may be reserved for future, and *fit* occasions.

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I only contend that wine drank *immoderately*, is not a *necessary*, nor a *natural* beverage; yet we all know it to be sometimes as freely taken, as if it were *both*. It is, however, not *necessary*, otherwise than as a medicine: if it were so, it would be necessary for all descriptions of persons. If it be *natural*, at what precise period does *nature* originally proclaim her want of it? I presume it will not be affirmed that the mother's breast should teem with it; so that in *very* early infancy nature does not require it: within a few years after this, nature seems not to call for it, because, we see great numbers of young persons fare compleatly well, without it. — Towards manhood we often observe the highest health; the fullest mental, and corporeal abilities, without the aid of it. — Where then are we to fix the point, at which the use of it, as a daily species of potation, is imperiously called for by nature? rather I should say, where is
it

it called for at all, but as other medicines are, *occasionally*? and if a natural call can be pleaded for any *other* use of it, it seems to be undeniable, that nature here is only of a secondary order, an *acquired* nature, a *superinduced* nature; in reality, a *disease*. Indeed I am rather inclined to believe that a capacity acquired by practice, for drinking *much* wine (in young persons particularly) with apparent impunity, is a sure symptom of a very disordered habit or frame of body; certainly it appears so, if we are to refer ourselves to true healthy, undisturbed nature, for our proper standard: just as to be able to bear a large dose of *opium*, or some other very powerful medicine with *seeming* impunity, implies a real deviation from a healthy state, in any other case. We know that very young children for the most part naturally dislike the very taste of wine, or spirits; we know too, that animals abhor both, and seldom can
be

be made to take either but at the expence of their lives.* And as the healthy stomach of a young person *needs* it not, so far from facilitating his digestion, wine, given in any considerable quantity, serves rather to interrupt it, shewing evidently that vinous spirit has nothing very concordant with our *nature*. From whence the inference is plain, that he who can bear (whilst young especially) a large quantity, without apparent injury, does so, because by force and habit, he has compelled his constitution to endure it; and in the same proportion as he can sustain these injuries without immediate inconvenience, or suffering, he is, in reality, so far removed from the native and original healthiness of his constitution. Let us then carefully examine the facts, and

* It is a well known fact, that the growth of puppies may be considerably checked, by forcing them to live upon *Gin* or any other *ardent spirit*. When ladies' lap-dogs were a species of traffic in Paris, *this* was the method said to have been pursued, and the creatures so treated, seldom survived the third year.

and we shall soon discover, whether *true nature* has any concern herein. Do we not meet with many instances of disease, and *premature* old age, in persons of both sexes, who, by the habitual use of wine, and other inflaming liquors, perhaps almost from infancy, or at least from very early years, absolutely dare not, at all times, drink a glass of simple cold water; nor even at their meals can venture upon this, without brandy, or wine, first mixed with it, for fear of spasms, or gouty affections of the stomach? and can this be esteemed health?—can therefore that be considered as a *natural* and *healthy* practice, which is able to produce effects so far removed from health? perhaps indeed a better criterion in this respect of a truly natural state of the stomach (that great organ and source of health) could not be named, than the circumstance here alluded to, viz. the being able between meals, at any time, to bear a glass of
cold

cold water, unless some other considerations should forbid it; since it may be presumed, that a stomach, which is capable of bearing, at any time, a liquor so naturally designed for it, has received no great injury from the use of *heating liquors*; nor can any stomach be said to be in a sound state, with which so innocent a fluid would not agree; allowance being made at the same time for other circumstances.

A friend of mine once informed me of a visit he had received some years ago from a respectable old clergyman, who had been above fifty years minister in his parish, and who died at last purely from an accidental circumstance, no way connected with his old age; to whom, after a journey from the country on a cold day, he offered some refreshment. The old gentleman, with the good spirits and alertness habitual to him, desired "only a bit of bread, and a glass of water:" My friend in-
treated

treated him to mix a little wine with his water "for the stomach's sake:"—"No, (said the old divine) I have always accustomed my stomach to bear a glass of cold water *at all times*, as a test of health." Yet the person alluded to, was not altogether a *water* drinker, and knew well the proper seasons, both when it was expedient to comply, and when prudent to desist. But he kept in view the criterion and principle above stated; and for any thing that seemed to have indicated to the contrary, might have been still living, healthy, erect, and chearful.

How far all persons may safely venture to imitate the example, let each respectively judge for himself. The conclusion, however, is very certain, that so far as temperance, with respect to fermented liquors, can be practised consistently with former habits, or where it can be early introduced among young persons so as to preclude the forming of

bad habits, so far, it is an experiment worth the attempting: and I can with truth assert, that if attention to these particulars, joined with other established rules of temperance, will not ensure life, health, and its enjoyments; *intemperance* will most assuredly not prove more efficacious; but will, on the contrary, make some evils, (*inevitable* perhaps sometimes even under the former system), much more untractable, by interweaving with them evils of its own, which *temperance* knows not; and which, under *her* system, could never have been introduced.

But some objectors may say, "is there not danger by an abatement of our usual quantity of wine, that in cases of fever, &c. it would be very difficult to lower the system?" The answer to this is very obvious: if a person be habitually of a full temperament, or disposed to inflammation, (commonly, though improperly, called fever), a
free

free use of wine must be, at all times, highly prejudicial to him, as being calculated to keep up that tendency to inflammation which he already possesses in too great a degree. Such a person, therefore, ought at all events to take less *wine*—as a *medicine* peculiarly calculated to do him injury. On the other hand, if he be not, even with the use of wine, predisposed to inflammation, he will most assuredly be still less so, in consequence of reducing his quantity of inflaming stimulus. But the truth is, that the plea here used in favour of the continuance of an accustomed quantity of wine, is a delusive one; and is probably so understood even by those who urge it: for in the first place, a person puts himself less in the power of disease, who keeps his body cool, and in that state to which nature certainly is best adapted, and which she best approves. Secondly, even if disease *should* befall him, he need not doubt

but that means may yet be found, in every case sufficient to answer all the requisite cooling purposes; as for instance, by a less quantity of animal food than usual, or of fermented liquor (if still some is ordinarily taken), by bleeding also, and by other methods which are usually resorted to in such cases.

By limiting therefore his regular use of inflaming liquors, he not only keeps himself more within the boundaries of health, but baffles, or precludes many diseases; yet nevertheless, leaves his physician scope enough for lowering his habit: but if notwithstanding all endeavours to the contrary, inflammatory diseases *should* take place, there are stronger grounds of hope under these circumstances, than under any other.

I think it is recorded of Socrates, that during the memorable plague at Athens, he escaped it in consequence
of

of his habitual temperance and cool regimen.

Still however, the objector may reply, we must not carry things too far, nor reduce the system too low.—So say I:—look, he remarks, at the vegetable world; see yonder plant, which he takes pains to assure you, must be supplied with all due nutriment, or it will inevitably perish; at least it will not thrive *vigorously*. Then he tells you of *good* soil, *rich* manure, *plenty* of nutriment, &c. &c.—all which he applies to the human frame, as but to a plant of another kind. To this in general I assent most cordially: but I can go no farther. In all that concerns the *quantity* and kind of stimulus to be applied, and the *degree* of nutriment to be conveyed, we should not perhaps be found perfectly to coincide.—If *these* be *too* abundantly administered, or applied, in either case, *premature* vigour (the natural consequence of the *excess-*

five application of stimulants), would hasten the death of both plant and patient, as was before observed when speaking of the analogy between animal and vegetable life: but let *both* have their proper *quantity* and proper *kind* of nutrition, not however of the highly stimulant, or præternatural order, and both plant, and patient, probably will live, and prosper.

This I apprehend is the true state of the comparison in such a case: but even in asserting this, I refer to those *only* who have been accustomed to the use of wine; who must here use their own judgment, in applying to themselves what I have suggested. Young persons, and those who have been totally unaccustomed to such a stimulating liquor as wine, superadded to their daily diet, are quite unconcerned herein.

But after all, what is this *low* living, from which so much alarming mischief
is

is here apprehended? The whole range of the table is left according to the several tastes and appetites of individuals, to their own reasonable enjoyment: nor is any prohibition intended but that of *excess* in the use of fermented liquors. Beef, Veal, Mutton, Fish, and Fowl, the produce of the dairy, the luxuries of our gardens, &c. are admitted freely to be partaken of, as being nothing more than what a naturally good constitution pleads for, as essential to health. Stimulants in disease *must* be recurred to; but in health, excessive, or præternatural stimulants, no person can require; nor can such inflaming articles at any time prove indifferent, and therefore innocent, in their operations.

The best general rule perhaps to be applied concerning *liquors*, as to judging of their *degree* of inoffensiveness to the constitution, may be, to consider those which are the most simple, and least stimulating in their composition, or
quality,

quality, as being most proper to be taken with our food, beginning with *Water*; and to consider others injurious, in proportion as they contain a larger quantity of vinous spirit. Brandy and water, as a common beverage, for all habitual uses, may be regarded as most destructive and pernicious, though by many persons, it may have been taken for some time, with seeming impunity, or even *apparent* benefit.

It must be a subject of great regret to many, that the example even of some of their medical friends and advisers is not always favourable to the cause of sobriety; but it should be remembered, that as men, they are liable to the same irresolute and irregular modes of conduct in this respect, as their less informed neighbours and associates; and like them, act often, as if they were unconscious of the dangerous tendency even of their own proceedings; sometimes too, rather *approving*, than condemning,

demning, the use of stimulating liquors; arguing perhaps at the same time, in defence of them, with *great plausibility*, though on false principles: and not unfrequently, so wedded are they to the pleasurable sensations produced by wine, or other fermented liquors, that their understandings, in a short time, become subservient to their inclinations.

Let *one*, however, whom I have heard of, counteract the evil of his example, by the frankness of his confession: being asked by an acquaintance at a public meeting, (where the bottle had a pretty rapid circulation)*, whether he did not consider wine as prejudicial to health, and if so, why he drank it so freely? honestly replied, "I like health very well, but I like wine better." So candid an acknowledgment requires no comment; the inference being too obvious to be mistaken.

However disagreeable, and painful, the reflection may be, I fear it must be
admitted

admitted as a truth that when the practice of drinking wine and spirits to *excess*, is rendered habitual, it is extremely difficult to overcome ; in addition to which, so oppressive is the despondency of mind, languor, and ennui, after the stimulating effect of these liquors has subsided, that without a very regular perseverance in our attempts to get the better of such habits, and to rise superior to the bad examples of others, a repetition will be continually indulged in, till resolution becomes too weak and transient to resist the allurements. Health in the mean time is sacrificed to intemperance, and the scene closes in some corporeal disease, mental derangement, or sudden death.

The truth of these remarks, as to the effects of wine on the constitution, will, I apprehend, if dispassionately considered, be for the most part candidly acknowledged. And perhaps if the whole truth were confessed, with many persons

sons the chief obstacle to the adoption of an opposite conduct, is the awkwardness of being without a substitute for wine, or the difficulty of finding one after our meals, when habits of this kind are most frequently indulged in.

The French and Italians (generally speaking) set us a good example, in this particular, by drinking their coffee very soon after dinner; by which they avoid taking a larger quantity of wine than is consistent with health; and by this means are more capable, and better disposed, to enjoy the *true* pleasures of social intercourse; and are consequently less liable to languor, hypochondriac affection, and ennui, together with many other diseases arising from this source.

But if persons, who have long been accustomed to take a large portion of wine, find themselves from habit utterly unable to diminish their usual quantity, which they have taught themselves to imagine necessary for their health's

health's sake; or if they are candid enough to profess at once, their love of wine, and therefore their unwillingness to abandon it, this Tract leaves them but exactly where it found them:—to themselves only they are accountable; and by their own judgment in this respect must they be determined. But if they are otherwise disposed, it is not perhaps impossible to devise an expedient, by which they may be led to adopt a system better suited to their real welfare; and be prepared even to advance further, if they find, by a new practice, such an improvement in their health, as may encourage them to proceed in it; and this may be done without any interruption to social conversation, or friendly intercourse, by a judicious, yet very salutary, contrivance. —The mixing of a little water with their wine, will easily admit of the enlarging many toasts, without addition to the original quantity of stimulus: the
strength

comfort (if he had been long accustomed to it), or with his habits of friendly intercourse; and if he be desirous of still greater security, he has it in his power to insure this by such further attentions, as whilst they tend to preserve his health, will sufficiently promote chearfulness, and answer every just purpose of social life.

At convivial feasts, a very prevailing opinion into which many are unthinkingly led, is, that "good eating, requires good drinking," but it so happens that the very reverse of this is the case. *Good* eating (as it is usually termed), generally implies high seasoned dishes; but the stimulant powers these possess, are for the most part *fully* sufficient for answering every purpose of promoting their digestion, even in debilitated stomachs; an effect which aromatic spices have the property of producing with far less injury to the constitution, than vinous spirit. It is therefore just as rational

tional to conclude, that a *blazing* fire requires inflammable fuel to be heaped upon it, as that much strong wine should be added to the contents of the stomach after eating high seasoned dishes.

There are perhaps none, who would be more benefited by attention to many of the particulars related in the course of these Remarks, than the younger students of our universities, and of other seminaries established for the same purpose. A close application to study is, of itself, sufficiently injurious to health; and men of studious characters, should counteract this effect, not only by proper bodily exertion, but also, by a cautious abstinence from the intemperate use of wine and other strong fermented liquors. Young men who live in the country, and who are so circumstanced as to be able (in some degree) to counteract the effects of their intemperance by vigorous exercises, as hunting, shooting, &c. (a mode of life very

different in general, from that of those who are immured within collegiate walls) have in this respect an advantage on their side; yet even among these is discretion necessary. But for others who are occupied in the more laborious exercises of the mind, to indulge freely in *stimulating* liquors, must be particularly detrimental; for by *these*, both body, and mind, often receive irreparable injury: the former being debilitated, in proportion to the degree of stimulus applied to it, either by wine or by other heating liquors; the latter being liable to be weakened, in proportion as it is kept upon the stretch by continual application, or intense thinking.

The truth unquestionably is, that the danger to persons in early life, arises, for the most part, from the very circumstance of their not requiring such a daily quantity of vinous spirit in addition to their common diet. They are then at
a time

a time of life when nature does not necessarily demand *stimulants* to increase her vital activity; or rather, when, if artificial means were to be resorted to, the most adviseable, perhaps, would be such as have a tendency to lower, or reduce the natural but powerful energy of the system. What indiscretion then to add fire to that which is already but too susceptible of inflammation? and as this observation is applicable to them, at *this* period, so is it also true, in more advanced years; in proportion as there is already sufficient health, vigour, and activity, remaining in the system, to render the aid of *medicine* perfectly unnecessary, which, in all such cases, *wine* must be esteemed.

The manners of the present age indeed are not such as to urge youth to very frequent acts of intoxication, and no doubt the charge of habitual drunkenness, is, what few young persons of any reputation in the world can be

accused of; but the mischief which is sustained by those who are not properly initiated in the discipline of temperance, with respect to the use of fermented liquors, and yet in a very *sober* way daily inflame themselves by the *regular* use of wine, is what perhaps they have never suspected themselves, nor have their older friends, in general, apprehended for them.

This practice, however, if bordering on excess (to adopt the sentiments of an intelligent author) is certain by slow degrees to abolish every enviable distinction of the prime of life: the whole exterior is generally soon visibly affected; feverish flushings succeed instead of youthful bloom; symptoms of weariness, dissatisfaction, and gloominess, often take place: the happy faculty of being easily pleased, quickly disappears, and the spirits, unless they are supported by conviviality or some elaborate amusement, usually droop. What further evils

evils and inconveniences, beyond these, arise by time, depend chiefly upon peculiarities of constitution. The least formidable perhaps is *Hypochondriasis*, of which the seeds are generally sown whilst we are young, and under the influence of the stimulus of inflaming liquors; from which, the consequent depression, with indigestion, and a variety of other bad consequences, pursue us perhaps through life, and are, sometimes, aggravated to feelings of horror, almost insupportable. This truth is particularly exemplified among those, whose lot in *after* life has been solitude and retirement. Whereas had a cooler, and more temperate system been pursued from early days, their native health and chearfulness might have been preserved in any situation, even to the latest period; and the whole train of nervous diseases, have been kept under, or prevented.

This observation may perhaps be esteemed

teemed worthy the attention of those young men especially, who are of a studious, and sedentary disposition; that for all the purposes of mental application, which are best effected by clear perception, and an undisturbed possession of the faculties of mind and body, nothing is so likely to contribute, as an habitually temperate regimen, particularly with respect to fermented liquors of every kind.

Dr. Cadogan has affirmed, that a drunken fit once a week would not perhaps be *so* injurious to the constitution, as the *daily* habit of drinking inflaming liquors, in what is called a *sober* way; which is the practice here objected to.

I by no means wish to enter into a comparison between the two cases, or take upon me to decide upon them: but we are both agreed in this; that the latter is a very bad practice, and the former not much better.

Occasional

Occasional compliances with the usages of society in these respects, may, perhaps by some persons, be considered as unavoidable sacrifices to the advantages of it: but habitual indulgencies, though much within the bounds of *gross* excess, cannot but in the end be prejudicial; and where no social end is to be answered, there is still less excuse for them.



HAVING already perhaps wearied the attention of my readers by a longer enumeration of the ill consequences attendant on the *abuse* of wine and spirits, than I at first intended, though but a small portion of the catalogue, I will relieve their patience by approaching towards a conclusion. But I must not omit to assure them, that *great* as these injuries appear to be, they are not irrecoverable in some constitutions, if judiciously managed. The principal art
to

to effect which, seems to consist in the *very slow*, and almost *imperceptible* diminution of the *stimulating* beverage. This method, even within the small scope of my own personal observation, has frequently been attended with success. Dr. Armstrong, speaking of the œconomy of nature, observes,

——— “ All *sudden* change

She hates of habit, even from *bad* to *good*.

If faults in life, or new emergencies

From habits, urge you by *long time* confirm'd ;

Slow may the change arrive, and stage by stage,

Slow as the shadow over the dial moves ;

Slow as the stealing progress of the year.”

Upon this principle, Sydenham is said to have cured a patient to whom he recommended, after the failure of every other kind of advice, to put daily a certain number of pills, made indeed of nothing more than box wood, (though the patient was not aware of that) into the vessel out of which he took his wine ; till, by imperceptible degrees, the number of pills, being every day *increased*,
occupied

occupied a larger space in the vessel, than the wine; by which time the patient having nearly obtained his cure, was easily prevailed upon to confine himself to the quantity of wine allowed by Sydenham.

The late Dr. Pitcairne and others, have succeeded nearly in the same way, with patients who could not, by any other means, be prevailed upon to relinquish their destructive habits.

After having stated the possibility of a recovery, and the mode by which it may be effected in most cases, it is incumbent upon me to point out what appears to be the best substitute to be resorted to in the place of such powerful and unnecessary stimuli: and it is no small satisfaction, that I feel in reflecting, that what I shall presume to recommend, will admit of such practical illustrations, as I shall be able to produce in favour of it, in the *examples* of some characters universally allowed to be eminent

eminent for their great medical, philosophical, and general knowledge; some of whom have devoted a principal part of their lives to the study of the human body, and of its various functions, and diseases. In addition to which, the very great benefits I have myself experienced in exchanging the usual stimulant beverage of fermented liquors, for a more diluting one, leave me no hesitation in pronouncing *Pure Spring Water* to be unquestionably (with some few exceptions) the best liquor to be taken with our meals,—though condemned as prejudicial by some, and rejected, for no just reason, by others.

The following advantages resulting from its use, may possibly recommend it to those who are unacquainted with its general properties, viz. that it is a great promoter of digestion in healthy stomachs, and by its coldness is enabled to lower the heat usually generated in this process; it is a powerful
preventive

preventive of biliary concretions, or *gall stones*, as they are called, and of urinary calculi, or *gravel*; it also assists all the secretions of the body; and as (according to the latest satisfactory experiments of Lavoisier), *Oxygen*, or vital air, is a component part of it, by drinking water, we actually receive fresh vital power; it is a liquor too, which is to be found naturally in all climates; is given to all nations, and is agreeable to most palates; many take no other drink during their whole lives, and yet enjoy good health, though engaged in laborious occupations;—a proof that water is well suited to answer every ordinary purpose of the animal œconomy. Sir John Floyer tells us (agreeable to the *humoral* doctrines of his day) “those who use cold water for their common drink have their *humours* least rarefied, and escape those diseases that affect the head, as apoplexy, palsy, blindness, madness, &c. If the virtues

of cold water were duly considered, all persons would value it as a great medicine; and to the use of this, children ought to be bred from their cradles, because all strong liquors are injurious to their constitutions."

Good wholesome water is (according to Fourcroy) generally to be discovered by the following characteristic distinctions:—it is very clear and limpid, no extraneous body alters its transparency; it has no kind of smell; it has a lively, fresh, and almost pungent taste; it boils readily without losing its transparency; it entirely dissolves soap in such a manner, as to form a fluid, seemingly homogeneous. Spring or river water, which filtrates, or flows through sand, is in continual motion, and not polluted with the putrefaction of animal or vegetable substances, is found to possess all these properties. This kind of water passes easily through the stomach and intestines, and is therefore favourable to digestion. On

On the contrary, water which stagnates in subterraneous cavities; which has no current; is overgrown with plants, or abounds with insects; is very shallow, and has a soft, muddy bottom, consisting of putrid vegetables, or containing calcareous salts, or clay; all such water is unwholesome. Waters, impregnated with the latter substances, are called crude or hard, and are oppressive to the stomach and unfavourable to digestion.

Armstrong has also given directions for the choice of water in the following lines, where the same opinions are expressed by the elegant poet and physician, as by the above experienced and enlightened chemist:

“ What least of foreign principles partakes
Is best; the lightest then what bears the touch
Of fire the least, and soonest mounts in air.
The most insipid, the most void of smell.

.
Tho’ thirst were e’er so resolute, avoid
The sordid lake, and all such drowsy floods.
As fill from Lethe Belgia’s flow canals,

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(With

(With rest corrupt; with vegetation green;
 Squalid with generation and the birth
 Of little monsters), till the power of fire
 Has, from profane embraces, disengag'd
 The violated lymph. The virgin stream
 In boiling wastes its finer soul in air."

It appears that water owes its pleasant fresh taste to air which is combined with it; for when boiled the first bubbles that arise consist of air, and the water after it has lost them, has no longer the same lightness or relish.

It recovers these properties by being exposed for some time to the atmosphere, or by being briskly shaken.

By distillation water is obtained perfectly pure and separated from those earthly and saline matters which generally are contained in it; but are now left at the bottom of the vessel.

Distilled water has an insipid taste, and, when drank, oppresses the stomach with a kind of weight; but having been exposed to the open air, and briskly shaken, it recovers its taste, and may be
 drank

drank with safety: for distillation does not alter water, it only deprives it of the air, which is always united to it, in its ordinary state.

No natural fluid is susceptible of more combinations than water, and it has on this account, long held the name of the *great Solvent of Nature*.

The scientific author of *Zoonomia* ranks water amongst the *nutrientia*, or substances affording nutriment, in his arrangement of the *materia medica* contained in the above work, and observes that "water must be considered as part of our *nutriment*, because so much of it enters into the composition of our solids, as well as of our fluids; and vegetables are now believed to draw almost the whole of their nourishment from this source; it has however other uses in the system, besides that of a nourishing material, as it dilutes our fluids, and lubricates our solids; and on all these accounts a daily supply of it is

required:" and he further remarks that " it was formerly believed, waters replete with calcareous earth, such as incrust the inside of tea kettles, or are said to petrify moss, were liable to produce or to increase the stone in the bladder. This mistaken idea has lately been exploded by the improved chemistry, as no calcareous earth, or a very minute quantity, was found in the calculi analysed by Scheele and Bergman. The waters of Matlock and of Carlsbad, both which cover the moss, which they pass through, with a calcareous crust, are so far from increasing the stone of the bladder or kidneys, that those of Carlsbad are celebrated for giving relief to persons labouring under these diseases. Those of Matlock are drank in great quantities without any suspicion of injury; and I well know a person who for above ten years has drank about two pints a day of cold water from a spring, which very much incrusts the vessels, it
is

is boiled in, with calcareous earth, and affords a copious calcareous sediment with a solution of salt of tartar, who yet enjoys a state of uninterrupted health." May not some of the extraordinary cures said to have been effected in cases of stone and gravel, by very large quantities of water drank at this, or that, particular spring, have depended as much upon the *quantity*, as the *quality* of the water? in addition to which it may be remarked, that less fermented liquor is usually drank at public places where such waters are resorted to. I am here only speaking of *pure* water, without any reference to medicinal springs, which in consequence of their various saline and metallic impregnations, have been found to possess, when judiciously administered, singularly good effects in many diseases.

Some idea of the vivifying qualities of water, and other beneficial effects arising from drinking it, seems to have suggested

suggested itself to Dr. Armstrong, who in his excellent poem so often referred to, speaking of the refreshing power of pure spring water, thus expresses himself :

“ O comfortable stream, with eager lips
And trembling hand, the languid thirsty quaff
New life in you ; *fresh vigour* fills their veins.
No warmer cups the rural ages knew,
None warmer sought the fires of human kind :
Long centuries they liv'd ; their only fate
Was ripe old age, and rather sleep than death.”

Dr. Akenfide, who, in addition to his fame as a physician, has been justly ranked as one of the first of our British poets, has the following lines, in a Hymn addressed to the Naiads :

“ To crown his feasts, O Naiads, you the fair
Hygeia calls ; and from your shelving seats
And groves of poplar, plenteous cups ye bring
To slake his veins, till soon a *purger tide*
Flows down those loaded channels, washes off
The dregs of luxury, the lurking seeds of crude
disease,
And thro' th' abodes of life sends *wigour*, sends
repose.”

The

The too prevalent and mistaken idea that “ *Water impoverishes the blood,*” and is therefore hurtful to the constitution ; that it has a tendency to *diminish** the strength, and depress the spirits ; has, I believe, prevented many persons from adopting the use of it : but we have abundant instances in contradiction to these suppositions, in ancient, as well as in modern, times. *Hector*, one of the principal heroes of Homer’s *Iliad*, though renowned for strength and bravery, stands upon record as a water drinker ; and his abhorrence of wine may be learnt from the following just reply :

“ Far hence be Bacchus’s gifts, (the Chief rejoin’d)
Inflaming Wine, pernicious to mankind,
Unnerves the limbs, and dulls the noble mind.”

POPE’S *Iliad* of Homer, b. 6.

The

* The providential preservation of *Eliza Woodcock*, who survived a confinement of eight days and nights under the deep snow in February last, and was kept alive by eating snow :—and the still more extraordinary case (related in the same publication) of a young man, who was preserved, in a similar situation, fourteen days, and received no other sustenance than what he obtained from drinking *water*, prove that this fluid must contain *some* nutritious properties.—See the case by T. V. Okes, Surgeon.—Wilkie.

The amiable Archbishop of Cambray, in the 8th book of his *Telemachus*, describing the temperate lives, and simplicity of manners of the Bœotians, thus relates their abhorrence of wine:—

“ They are so far from drinking wine, that they never make any; not that they want grapes, since no country produces them more delicious; but they content themselves with eating grapes as they do other fruits, and dread wine as the corrupter of mankind:—it is a kind of poison, they observe, which raises madness. It does not directly kill a man, say they; but it makes him a beast. Men may preserve their health and strength without wine; and with it they run the risk of injuring their health, wasting their strength, and destroying their morals.”

The illustrious Haller attributed to the use of water alone, the perfection of all his senses, and particularly that of sight, although he exercised his eyes so
much

much in microscopic observations, even to a late period of his life.

The late Dr. Benjamin Franklin, who died at the advanced age of eighty-four, with his mental faculties in full vigour, appears to have been well acquainted with the good effects of a water regimen, as well as of the necessity of nourishing the body by *solids*, rather than by *fluids*; which he proved in his own person, as may be inferred from one of his letters,* in which he states that, when a journeyman printer, he never used to drink any thing but *water*, during his work; and when his fellow labourers laughed at him for his temperance, and told him that it was impossible to work without strong drink, he shewed them, by his own example, that it was not only possible, but that he who never drank strong liquors, could work more than those who did; and by a familiar train of reasoning clearly demonstrated to

* Franklin's Life and Letters, 2 vols. 12mo.

to them, that there was more nourishment in a penny loaf, than in a quart of ale; more grain being in one than in the other, and consequently that the former would go farther towards enabling a man to work, than the latter.

The following instance of strength resulting from *sobriety*, &c. is extracted from the London Packet of April 19, 1799, viz. "John Wilson, of Sosgill, Cumberland, died lately at the advanced age of 100. He exercised the trade of a blacksmith during sixty years, in all which time his beverage was milk and water, with the exception of only two glasses of ale, and one of spirituous liquors, during the *whole* course of his life."

To prove that a ludicrous incident will sometimes have a better effect than argument, the following fact is related: A wheelwright in this city, when very young, was informed by a ragged drunkard, that all his clothes had been
scorched

scorched off his body by the heat of his stomach, occasioned by the nature of the liquor he had drank; and was assured by him, that every man who did the same, was liable to the like fate!— This *wonderful* relation had such an effect upon the boy, as to induce him to drink water *only*, from that time: he is now thirty-three, and informs me that he is able to go through as much work as any man of his age, and has been free from every complaint except slight colds.

We are informed that at Constantinople, where the use of strong liquors is wisely prohibited, the Turkish porters whose only beverage is *water* or *lemonade*, perform their tasks with alacrity, and sustain burdens, under which a dram-drinking porter would droop and stagger. Many nations there are who never taste spirits, and yet enjoy health and vigour in a supereminent degree. What is also the general state of our own soldiers,

diers, who are exceeded by none in bodily strength and vigour?—yet surely their allowance each day cannot, in general, admit of much habitual excess.

These may be regarded as proofs that *strength of body* does not necessarily depend on fermented liquors for its support;—and the following, I presume, will be allowed as sufficient testimony, that *strength of mind*, also, may be possessed, without the aid of such stimulants.

It has been asserted by the late Dr. Johnson,* who for many years never tasted wine, that Waller,† who was a lively and chearful companion, was a *water drinker*; notwithstanding which, he was enabled, by his fertility of mind, to heighten the mirth of Bacchanalian assemblies; and that when his friend Mr. Saville said, “no man in England should keep him company but Ned Waller—

* Johnson's Life, by Boswell, 4to. vol. 2.

† Ditto's Lives of the Poets, vol. 1.

Waller—without *drinking*:" he had probably no other water drinker amongst his acquaintance.

The late celebrated Mr. John Hunter* drank no wine, for the last twenty years of his life; notwithstanding which, his mind and body, except disturbed occasionally by some very extraordinary paroxysms, were never more vigorous and active, than during this period; of which many of the philosophical works of this able anatomist and physiologist, now in the hands of the public, may be regarded as affording ample proof. Mr. Hunter was, notwithstanding, well known in his younger days to have been a *bon vivant*.

Hufeland† mentions an instance of a very respectable surgeon general of the German army, a Mr. T——, who ascribed his healthy and long life of

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* See the life of Mr. Hunter (prefixed to his Treatise on the Blood, &c.) by his brother-in-law, the present ingenious E. Home, Esq.

† "The Art of Prolonging Life," 2 vols. 8vo.

more than eighty years, chiefly to the daily use of fresh spring water, which he drank for upwards of forty years. Between his thirtieth and fortieth year, he was a most miserable Hypochondriac, oppressed with the deepest melancholy, tormented with palpitations of the heart, &c. and imagined he could not live six months; but from the time that he began his *water* regimen, all these symptoms disappeared, and in the latter half of his life, he enjoyed better health than before, and was perfectly free from hypochondriac affection.

The present learned and respectable Dr. Heberden would long since, most probably, have fallen a martyr to the gout, had he not lessened the frequency, and abated the violence of its attacks by a water regimen; at his present advanced age, (now upwards of ninety), I have been credibly informed he has, of late years, only allowed himself two or three glasses of wine a day. The

• The great advantages which the ingenious Dr. Darwin experienced by leaving off fermented liquors, may be seen detailed by himself in the 2d vol. of his *Zoonomia*, page 452;—where, after having described his own case of gout, and observing that “example has more forcible effect than simple assertion,” he concludes by saying, “that for upwards of twenty years, he has been in the habit of drinking *water*, and has been kept in perpetual health, except accidental colds from the changes of weather; that before he abstained from fermented liquor, he was subject to *Piles*, *Gravel*, and *Gout*, neither of which he has since experienced, except the latter, and that in a very slight degree.”

Dr. A. Fothergill* mentions the case of his friend Dr. B. Pugh, of Midford Castle, who having from early youth abstained from wine and spirits, declares

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that

* “Essay on the Abuse of Spirituous Liquors.”

that at this moment he not only enjoys superior health and vivacity, but feels himself as capable of every mental and corporeal exertion as he did at twenty-five, though now in his 82d year.

The following extract of a letter, which I lately received from a Physician, who has been severely afflicted by calculous complaints, may perhaps recommend the practice to those who labour under similar affections:—

. . . . “ I have steadily persevered in my abstinence from all fermented liquors whatever, which has relieved me from the Dyspepsia* to which I was formerly subject; and from a sense of weight and oppression about the head, which was occasionally very distressing. I now attempt not to make any converts to the system of *water* drinking; all I have hitherto done has been in vain, and has sometimes brought upon me, a degree of ridicule, from which, where no good end is to be answered by it, I would willingly

* Indigestion.

willingly be exempt. My own mind is satisfied. I see in the system both moral and natural benefits, but I cannot make others see them;—may the success of your efforts equal your wishes; but I fear you have undertaken a task which no human power is equal to; you will, however, have done your duty, and must be satisfied with the *mens sibi conscia recti*, and the chance of doing a little good.

“ Yours, &c.

“ R. H.

“ Taunton, Aug. 16, 1799.”

I believe there are no instances on record of persons having *really* injured their health, and endangered their lives by drinking water with their meals, and it is a mistaken idea that it does not promote *digestion*; on the contrary, pure spring water greatly assists it, as was before mentioned. Dr. Armstrong has delivered the same opinion in these lines, viz.

“ Nothing like pure and simple element dilutes

“ The food, or gives the chyle so soon to flow.”

It

It is true that Carnaro,* as well as many other writers since his time, insist on the good effects of *temperance*, in effecting these purposes.—The temperance here specified is extended to *eating*, as well as *drinking*, &c.

To persons advanced in life the advice of Carnaro may still hold good, and to such indeed, more may be allowed with respect to *stimulating beverage*; but the same advice will not apply when addressed to *youth*, who, when in perfect health, have their digestion quick, and of course stand not in need of *stimulants*, but rather, frequent supplies of *food*, which clearly proves that wine in such cases is unnecessary, and improper: indeed if given under such circumstances, it can tend only to waste and to exhaust those powers, which may be called for in more advanced years. More sleep too is necessary in youth, than in later years, for animals like plants acquire their growth

* “ Essay on Health and Long Life.”

growth and nutrition principally in the night-time or during sleep; for which reason the young of all animals, for many months after their birth, naturally sleep when their stomachs are full; and old age, when bordering on the weakness of *second childhood*, having its remaining feeble powers soon exhausted, is nourished, and restored, in the same manner.

The art of preserving long life, and health, is said, by Dr. Darwin, to "consist in using no greater stimulus, whether in respect to the quantity or kind of food and drink, or of external circumstances, such as heat, exercise, and wakefulness, than is sufficient to preserve us in vigour; and gradually as we grow old to increase the stimulus of our aliment as the *inirritability* of our bodies increases," or, in other words, as our *excitability* decreases.

THE word *Excitability* having been sometimes used in the course of these pages, and a reference to it having been often made by writers on the like subjects, it may not be improper to explain the term more amply, that it may be more generally understood, and the doctrines arising from it better comprehended.

By excitability is meant a quality possessed by every animated being at the commencement of its *living* state, which makes it capable of being acted upon by the external powers, and thus of producing the various functions of life. The means, by which this excitability is exhausted or worn out, are called *exciting* powers, or *stimulants*. As our bodies naturally contain but a limited portion of this property, when it is completely worn out, or exhausted, the body then becomes inert and lifeless; and the sooner it is wasted, by the application of different stimuli, either
 mental,

mental, or corporeal, or both united, the sooner this effect takes place.

It is usual, therefore, to speak of excitability as another word for life. It is, in truth, the *consequence* of life, but so nearly connected with the living principle, as, for most of the purposes of argument, to be held the same.

Thus if the excitability, or the capacity of being excited, be soon exhausted by the frequent application of *excessive* stimulants, the very same thing as old age is the consequence; and when the excitability is entirely worn out, so that the body becomes incapable of farther excitement by *any* stimuli, then death ensues. Surely then, it is the part of wisdom to be as sparing as possible, in the expenditure of this excitability, during the earlier parts of life, that more may be reserved for a later period; and that we may not accelerate old age, by imprudently lavishing the principle of life, in its first stages.

True

True indeed it is, that this excitability, when exhausted in part, by the application of a *temporary* stimulus, is capable of being repaired and renovated in some degree by the recruiting powers of sleep, rest, &c. and little injury will *seem* to have been sustained by persons who have applied stimulants to their constitutions pretty liberally : yet to suppose that *no* injury has been thus received, and that frequent application of excessive stimulants *daily* repeated, will, in the end, and after some years, produce *no* ill effect, does not appear to be warranted either by reason, or by observation. Time will for the most part, shew the fallacy of such a conclusion, though (as before remarked) in some cases, its ravages may be more slow than in others ; but in *all*, *some* effect must be produced, so as to bring the person nearer and nearer, after every repetition, to the *ne plus ultra* of excitability, or that point where
 inexcit-

inexcitability commences, and death ensues. Thus, however renovated, after each excess, or trespass, this property may be;—still, upon the whole, some deduction has certainly been made from it: and the greater or more frequent that deduction, the greater must be the injury sustained by the constitution at large. Nature, by the means before mentioned, may possibly, in some measure *recruit* her exhausted powers; but still these powers are, by the repeated violence thus offered them, prematurely weakened and diminished. Now if we apply this reasoning to the case of dram drinkers, we shall then perceive, that let the *real* age of the person be what it may, he will be so far advanced in his progress towards inirritability, inexcitability, or the point beyond which every stimulant will cease to produce effect, as to be, comparatively, *very old*, and consequently, in the same proportion to be near the termination of

his life. This is particularly illustrated by Dr. A. Fothergill's case, before mentioned, of the *young* gentleman who died of *old age* at twenty-eight.

To those who are not much skilled in considerations of this kind, the doctrine here stated may perhaps receive some illustration from the following, being part of a tale, extracted from a publication* before referred to: "Know, stranger, that before thy heart began to beat, the number of its pulsations was determined; no art or earthly power can add to the sum, but it depends on thyself, whether they shall be exhausted sooner or later; of these a certain number is daily expended:—if instead of this allowance, thou wilt *force* thy heart to beat twice as many, although thy destiny be not changed, thou livest but half thy time. By a life of reason and temperance the last stroke is long delayed, but by wasting thy spirits in folly and

* JACKSON, on the Four Ages, &c.

and riot, the appointed number is quickly accomplished." This, though by no means literally true, with respect to the pulsations of the heart, is yet figuratively so, if applied to the doctrine of stimulants, forcing, or prematurely wearing out, the excitability.

Under such circumstances we can only lament the loss of that property, which we are incapable of restoring to its original power, and may say therefore in the words of Shakspear,

———" It so falls out

That what we have, we prize not to the worth,
While we enjoy it; but being lack'd and lost,
Why then we rack the value: then we find
The virtue that possession wou'd not shew us
Whilst it was ours."

If, however, we can by any means impress on the minds of young persons, the bad effects of having recourse too early to these unnecessary, and unnatural stimulants, by representing the dangerous effects of a continued use of

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them,

them, that not only early debility of body and mind, but premature old age will most assuredly be induced by this kind of intemperance; moreover, that whilst the best means of preserving health are attended to, the means also of acquiring useful knowledge may be thus promoted; may we not flatter ourselves with the hope that from a due consideration of these subjects, they may derive lasting benefit to themselves, and transmit the same to their posterity?

To those of more advanced years, the authors I have named, together with their example, will not perhaps be deemed utterly unworthy of attention; whilst the picture delineated by the elegant and poetic pencil of one of them, will not, I should hope, fail to have some influence in deterring from the practice of *unsuspected* intemperance, the many votaries that crowd its alluring shrine.

“ Drink

" Drink deep, sweet youths,' seductive Vitis* cries,
 The maudling tear-drop glitt'ring in her eyes;
 ' Drink deep,' she carols, as she waves in air
 The mantling goblet, and 'forget your care ;'
 O'er the dread feast malignant Chemia scowls,
 And mingles *poison* in the nectar'd bowls.
 Fell *Gout* peeps grinning thro' the flimsy scene,
 And bloated *Dropsy* pants behind unseen;
 Wrapp'd in his robe white *Lepra* hides his stains,
 And silent *Phrensy*, writhing bites his chains."

DARWIN.

The progress of medicine and surgery
 has, undoubtedly, of late years, been
 considerably promoted by chemical sci-
 ence;—by means of which the œconomy
 of the human body, and the principles
 of animal life in general, have been
 more clearly demonstrated.

Facts are the evidences on which many
 of these desirable purposes have been
 obtained; and it cannot be supposed,
 that a farther advancement in medical
 knowledge will be either neglected, or
 lightly treated, by any practitioners
 who have at heart the interests of their

profession, or the benefit of the human species. Discouragements may possibly arise from various causes which cannot, perhaps, be prevented: and, among the variety of those persons, who will believe themselves at liberty to decide upon such subjects, there will doubtless be an infinity of opinions. Littlefness, and a firm attachment to old principles and practice, will influence some, even, when they themselves are not aware that they lie under such impressions; aversion to what may be called novel-ties, or innovations, will bias others: the various prepossessions which influence society, and the pleasantry with which new systems generally furnish the sarcastic, will prove by no means friendly to the cause of improvement, especially, where *prejudices*, having been long established, are become strong and powerful. Let it, however, be remembered, that by *these* we are not to estimate truth and falsehood in any case; and
that,

that, in fact, nothing further is proved by *them*, than that a diversity of opinions has always subsisted amongst medical men, and probably will ever continue. In the mean time TRUTH, if ingenuously promoted, will, in the end, assuredly find adherents to support its interests; and though prejudice may, for a time, resist it; and self-delusion, and self-interest be united to oppose its progress; yet, notwithstanding every obstacle that may be thrown in its way, *real* improvement in medical science, will gradually advance, and society must finally reap the advantages.

I will now conclude with the hope of being secured from any imputation of arrogance, or officious intrusion upon the time or attention of the public, at this period, when it must be acknowledged that the advanced progress in science, the general desire of useful knowledge, and the wide diffusion of benevolent sentiments, afford every
reason

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reason


reason to presume, that any endeavours to promote the health of our fellow-creatures will meet with a candid reception. If, therefore, this little Tract contributes in the smallest degree to such a purpose, and a single individual shall reap advantage from it, I shall esteem myself amply rewarded: should any persons, after all, think, and decide differently from me upon this subject, having satisfied my own feelings, I leave them to enjoy theirs; persuaded, however, that although false theory, or mistaken arguments, may be brought forward in opposition to the doctrines which are here inculcated, experience will ultimately justify their validity.

6 NO 61

E N D.

ERRATA.

- P. 2, l. 5. *Dele* been.
— 6, l. 17. *Dele* indeed.
 Last line, *for* southern hemisphere *read* more southern
 latitudes.
— 32, l. 14. *For* to go, *read* from going.
— 34. Note. *For* Spallanzali, *read* Spalanzani.
— 64, l. 5. *For* langour, *read* languor.
— 69, l. 17. *For* Promotheus, *read* Prometheus.
— 89, l. 7. *Dele* thus.
— 118, l. 14. *For* over, *read* o'er.
— 129, l. 4. *For* is, *read* it.
— 136, l. 11. *For* symptons, *read* symptoms.
— 140, l. 1, and 8. *For* Carnaro, *read* Cornaro.



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